PHILIPS

SERVICE MANUAL

Main Section
- Specifications
- Preparation for Servicing
- Adjustment Procedures
- Schematic Diagrams
- CBA
- Exploded Views
- Parts List

When servicing the deck mechanism, refer to MK14 Deck Mechanism Section.

Deck Mechanism Part No.: N2460FL

DVD PLAYER & VIDEO CASSETTE RECORDER

DVP3355V/F7

VHS

IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all P&F Equipment. The service procedures recommended by P&F and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. P&F could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, P&F has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by P&F must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

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MAIN SECTION

DVD PLAYER & VIDEO CASSETTE RECORDER

DVP3355V/F7

Main Section
- **Specifications**
- **Preparation for Servicing**
- **Adjustment Procedures**
- **Schematic Diagrams**
- **CBA**
- **Exploded Views**
- **Parts List**

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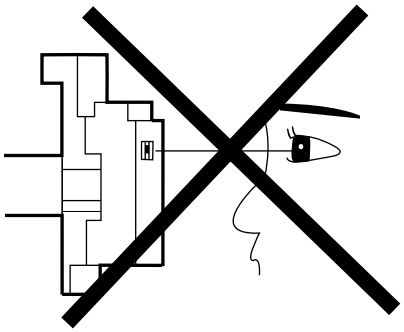
SPECIFICATIONS

Video heads :	4-heads	Dimensions :	W: 17 3/16" (435 mm)
Output signal format :	NTSC color		H: 3 3/4" (94 mm)
Power source :	120 V AC +/- 10%, 60 Hz +/- 0.5%		D: 9 3/16" (233 mm)
Power consumption :	16 W (standby : 0.5 W)	Weight :	Approx 5.63lbs (2.55 kg)
Operating temperature :	41 °F (5 °C) to 104 °F (40 °C)		

• Designs and specifications are subject to change without notice.
• If there is a discrepancy between language translations, the default language understanding will be in English.

LASER BEAM SAFETY PRECAUTIONS

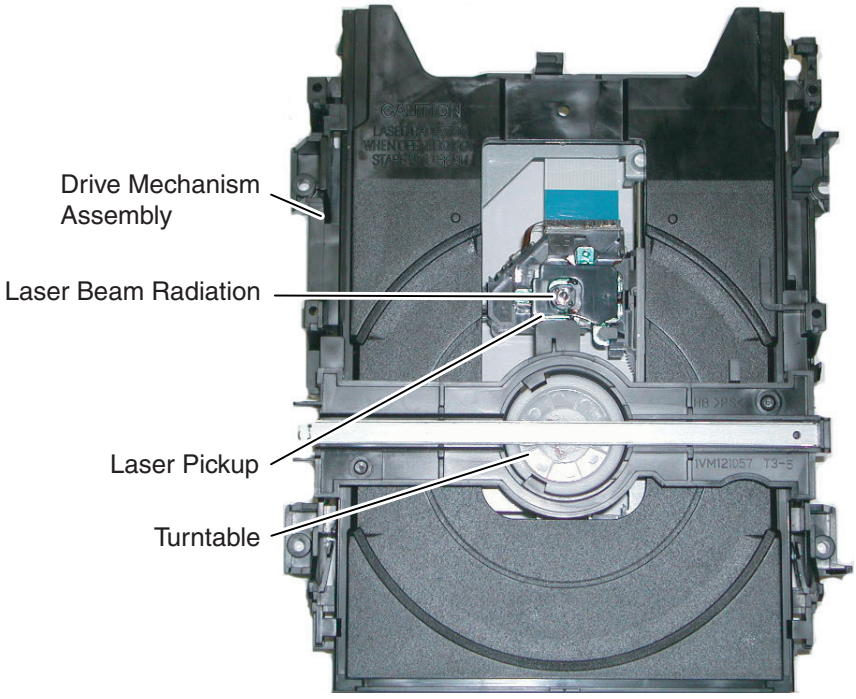
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 1.8 inches (30 cm) away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

CAUTION: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION
LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.

Location: Top of DVD mechanism.

IMPORTANT SAFETY PRECAUTIONS

Product Safety Notice

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a ⚠ on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are carefully inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the ⚠ symbol are critical for safety. Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements. Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:

1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:

1) Insulation tape
2) PVC tubing
3) Spacers
4) Insulators for transistors

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).

G. Check that replaced wires do not contact sharp edges or pointed parts.

H. When a power cord has been replaced, check that 11~13 lb (5~6 kg) of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC outlet.

L. When reassembling, be sure to use the original screws or specified screws listed in the parts list.

M. This unit is classified as a CLASS 1 LASER PRODUCT.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts, and wires have been returned to their original positions. Afterwards, do the following tests and confirm the specified values to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Clearance Distance (d), (d')
120 V	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

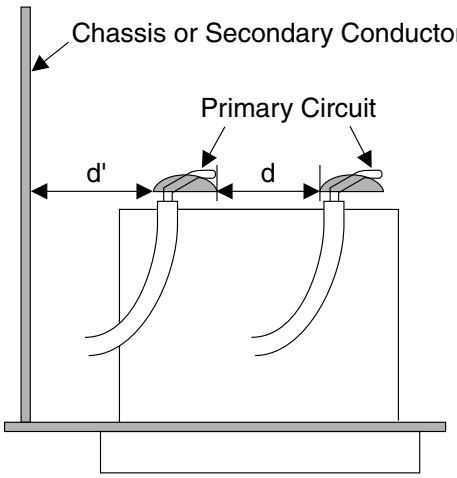


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

Measuring Method (Power ON):

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across the terminals of load Z. See Fig. 2 and the following table.

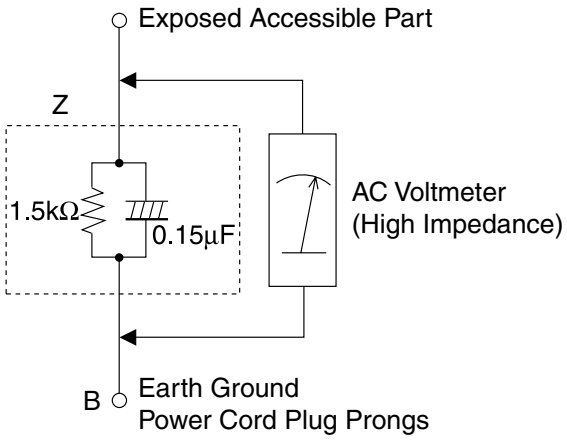


Fig. 2

Table 2: Leakage current ratings for selected areas

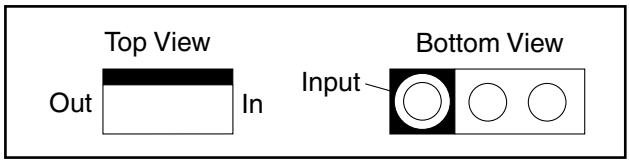
AC Line Voltage	Load Z	Leakage Current (i)	Earth Ground (B) to:
120 V	0.15 μF CAP. & 1.5 kΩ RES. Connected in parallel	i ≤ 0.5 mA Peak	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

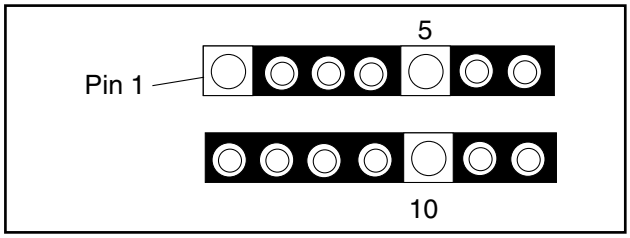
STANDARD NOTES FOR SERVICING

Circuit Board Indications

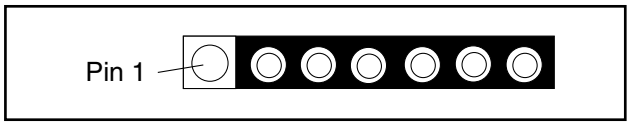
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.



3. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.

Pb (Lead) Free Solder

When soldering, be sure to use the Pb free solder.

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

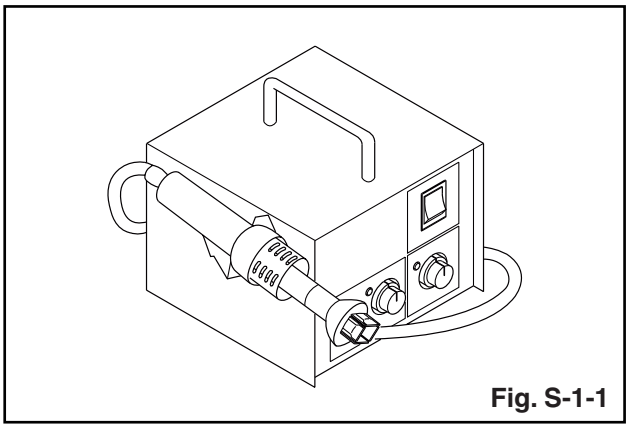


Fig. S-1-1

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

CAUTION:

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

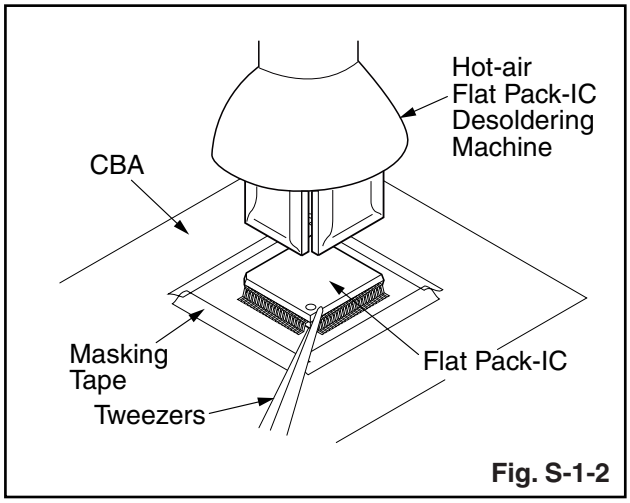


Fig. S-1-2

With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

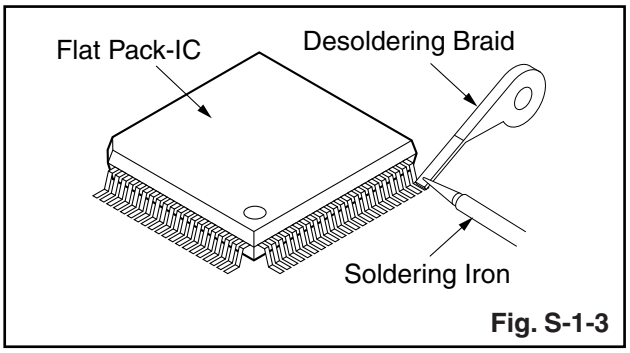


Fig. S-1-3

2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

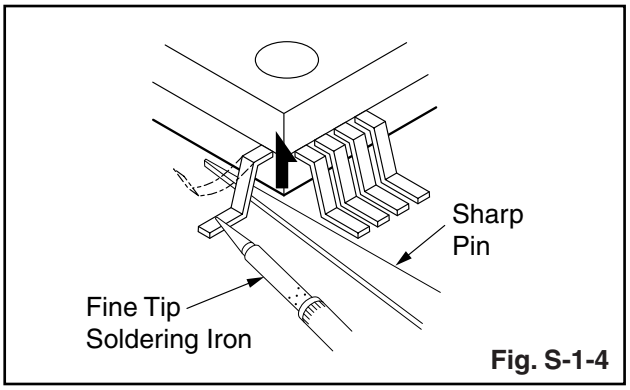


Fig. S-1-4

3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note: When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

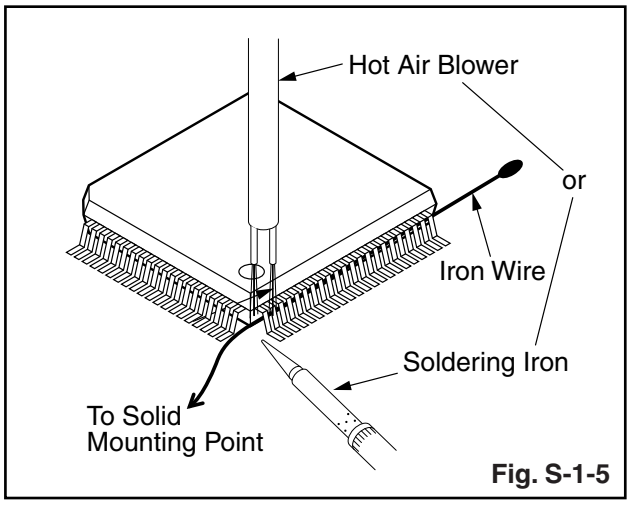


Fig. S-1-5

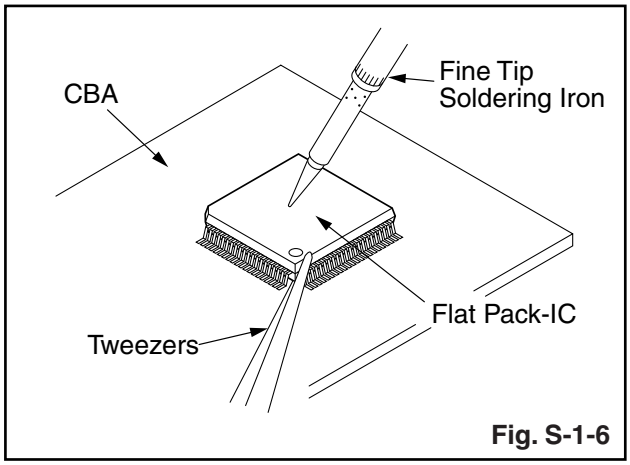


Fig. S-1-6

2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the pin 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

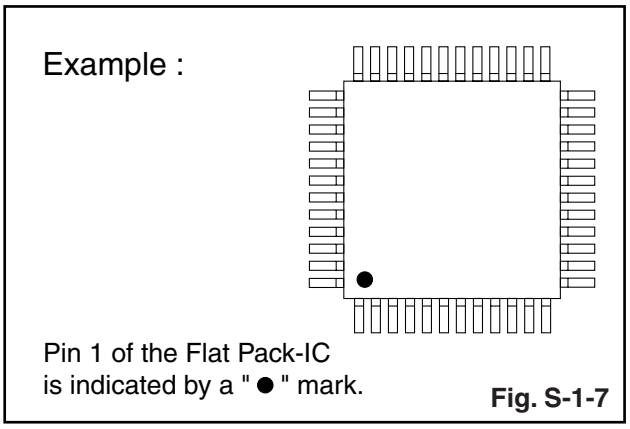


Fig. S-1-7

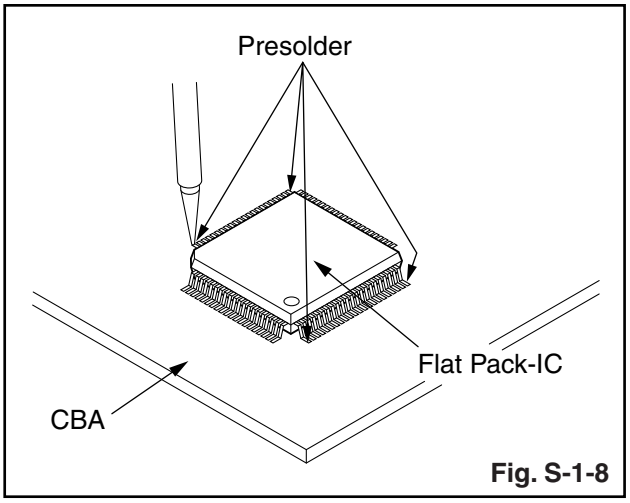


Fig. S-1-8

Instructions for Handling Semi-conductors

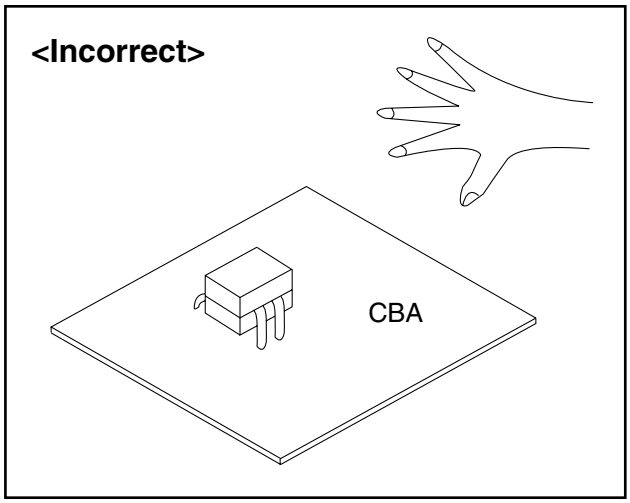
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

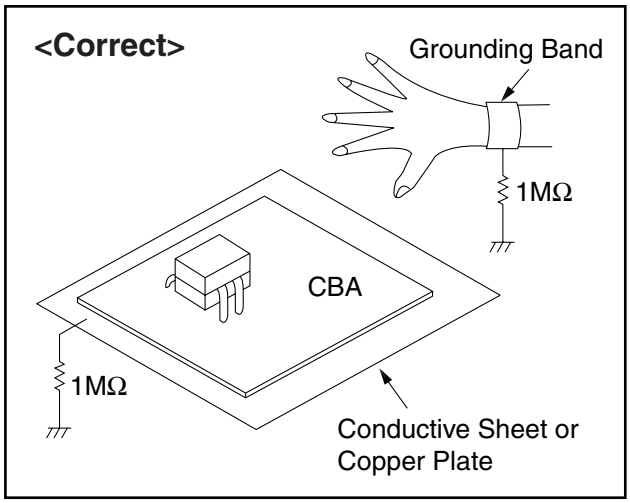
1. Ground for Human Body

Be sure to wear a grounding band (1 MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1 MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.





PREPARATION FOR SERVICING

How to Enter the Service Mode

About Optical Sensors

Caution:

An optical sensor system is used for the Tape Start and End Sensors on this equipment. Carefully read and follow the instructions below. Otherwise the unit may operate erratically.

What to do for preparation

Insert a tape into the Deck Mechanism Assembly and press the [PLAY ►] (VCR) button. The tape will be loaded into the Deck Mechanism Assembly. Make sure the power is on, connect S-INH (hollow) to GND. This will stop the function of Tape Start Sensor, Tape End Sensor and Reel Sensors. (If these TPs are connected before plugging in the unit, the function of the sensors will stay valid.) See Fig. 1.

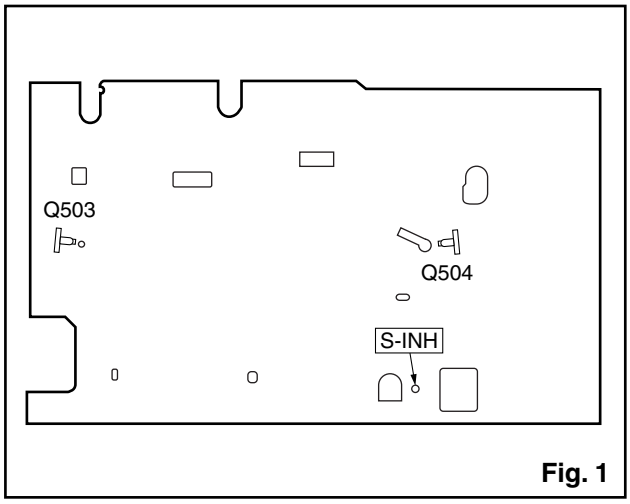


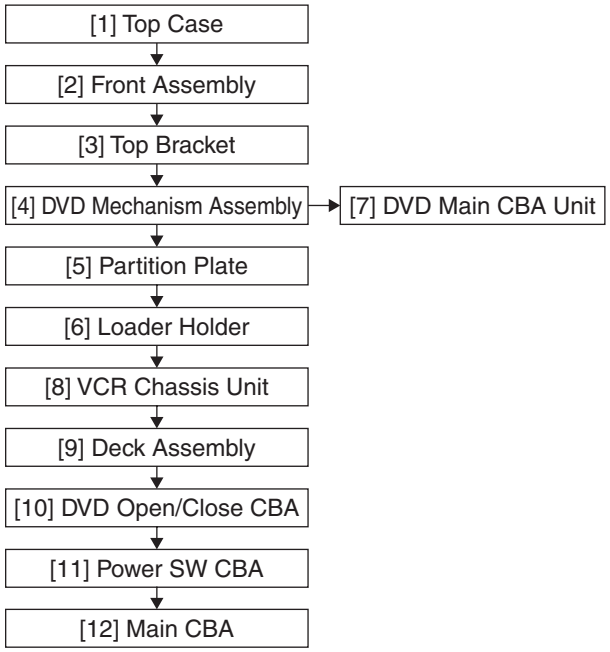
Fig. 1

Note: Because the Tape End Sensors are inactive, do not run a tape all the way to the start or the end of the tape to avoid tape damage.

CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to items to be serviced. When reassembling, follow the steps in reverse order. Bend, route, and dress the cables as they were originally.



2. Disassembly Method

ID/ Loc. No.	Part	Fig. No.	Removal	Note
[1]	Top Case	D1	4(S-1)	---
[2]	Front Assembly	D2	3(L-1), 3(L-2)	1
[3]	Top Bracket	D2	3(S-2)	---
[4]	DVD Mechanism Assembly	D3	4(S-3), CN401, CN601	---
[5]	Partition Plate	D3	2(S-4)	---
[6]	Loader Holder	D3	2(S-5)	---
[7]	DVD Main CBA Unit	D4	2(S-6), CN201, CN301	2, 3
[8]	VCR Chassis Unit	D5	5(S-7), 2(S-8)	---
[9]	Deck Assembly	D6	Desolder, 2(S-9), (S-10)	4, 5
[10]	DVD Open/ Close CBA	D6	Desolder	---
[11]	Power SW CBA	D6	Desolder	---
[12]	Main CBA	D6	----------	---
	↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

Note:

(1) Identification (location) No. of parts in the figures

(2) Name of the part

(3) Figure Number for reference

(4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P = Spring, L = Locking Tab, S = Screw,
CN = Connector
e.g. 2(S-2) = two Screws (S-2),
2(L-2) = two Locking Tabs (L-2)

(5) Refer to “Reference Notes.”

Reference Notes

1. **CAUTION 1:** Locking Tabs (L-1) and (L-2) are fragile. Be careful not to break them.
   1) Release three Locking Tabs (L-1).
   2) Release three Locking Tabs (L-2), then remove the Front Assembly.
2. **CAUTION 2:** Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc, during unpacking or repair work.
   To avoid damage of pickup follow next procedures.
   1) Disconnect Connector (CN301). Remove two Screws (S-6) and lift the DVD Main CBA Unit. (Fig. D4)
   2) Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. D4)
3. **CAUTION 3:** When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. D4)
4. When reassembling, solder wire jumpers as shown in Fig. D6.

5. Before installing the Deck Assembly, be sure to place the pin of LD-SW on Main CBA as shown in Fig. D6. Then, install the Deck Assembly while aligning the hole of Cam Gear with the pin of LD-SW, the shaft of Cam Gear with the hole of LD-SW as shown in Fig. D6.

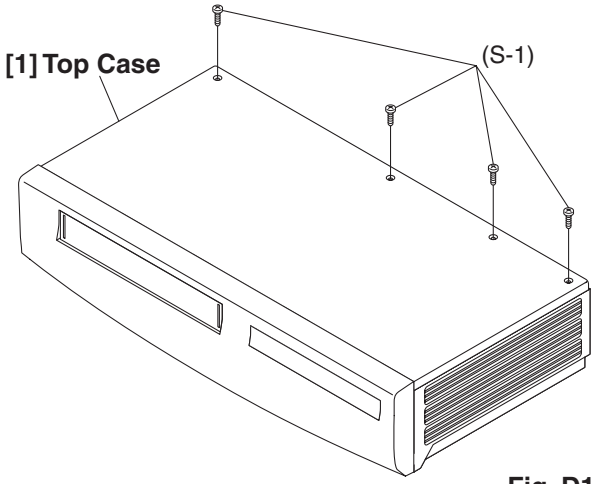


Fig. D1

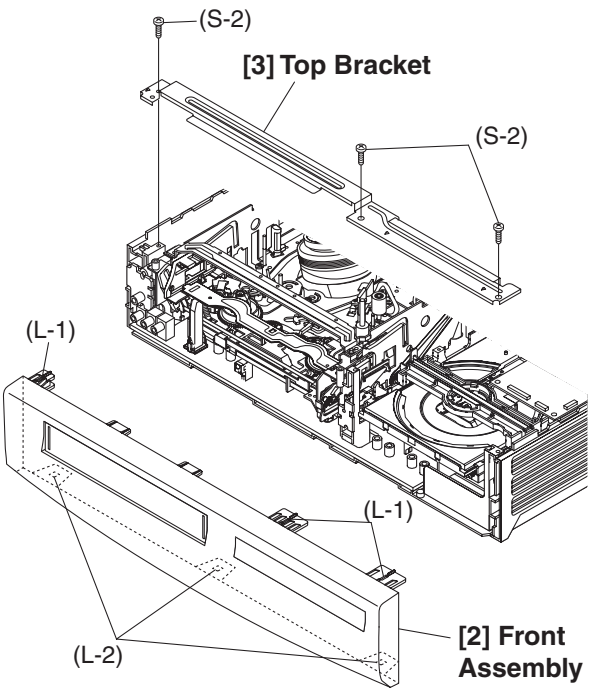


Fig. D2

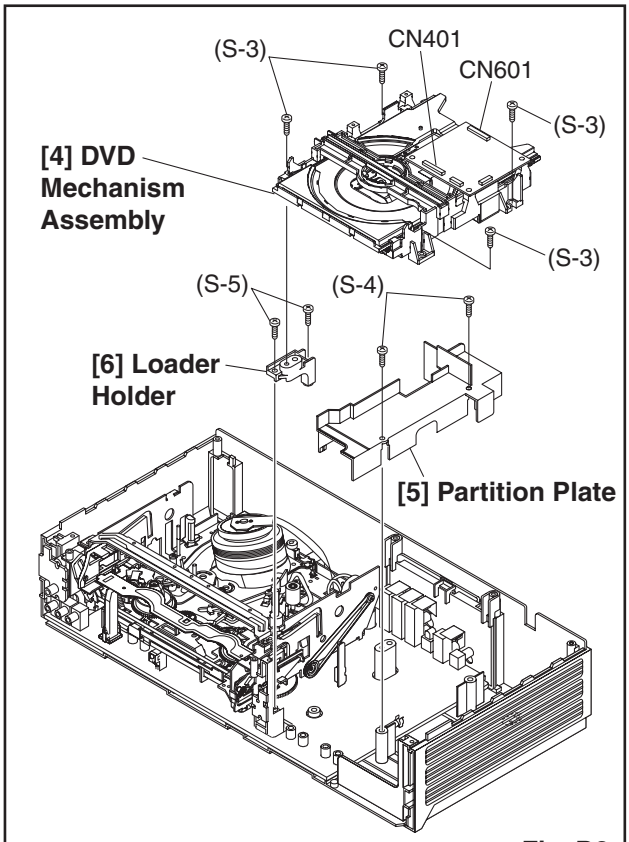


Fig. D3

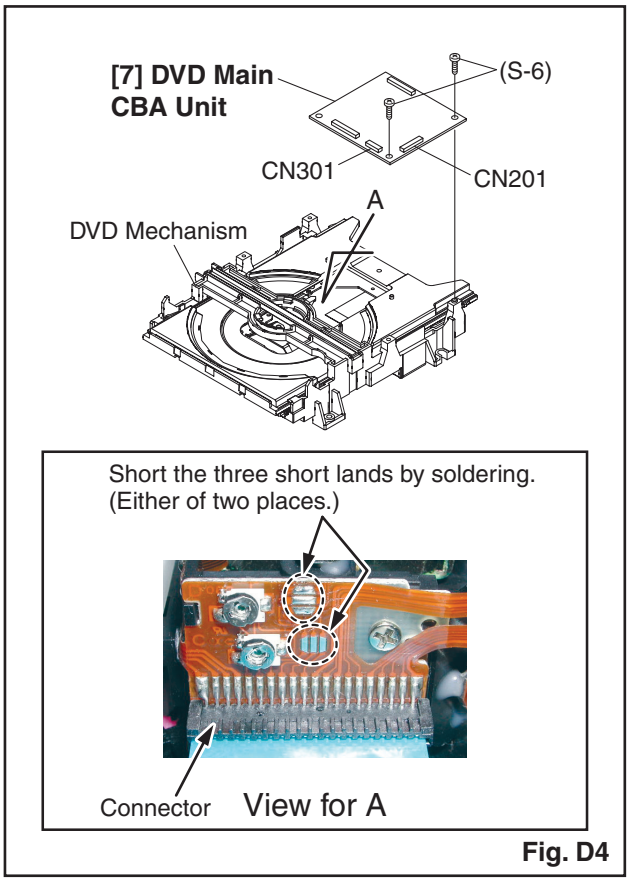


Fig. D4

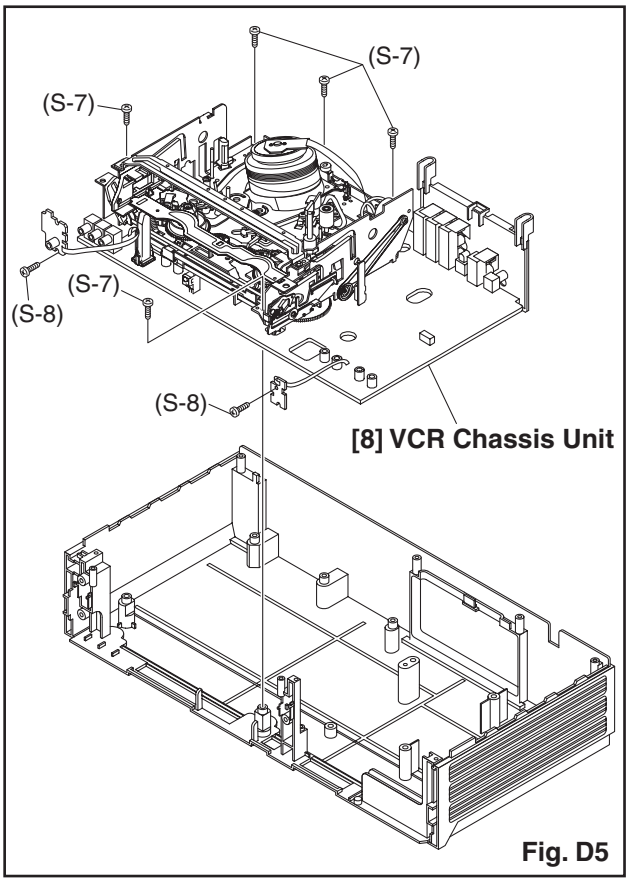
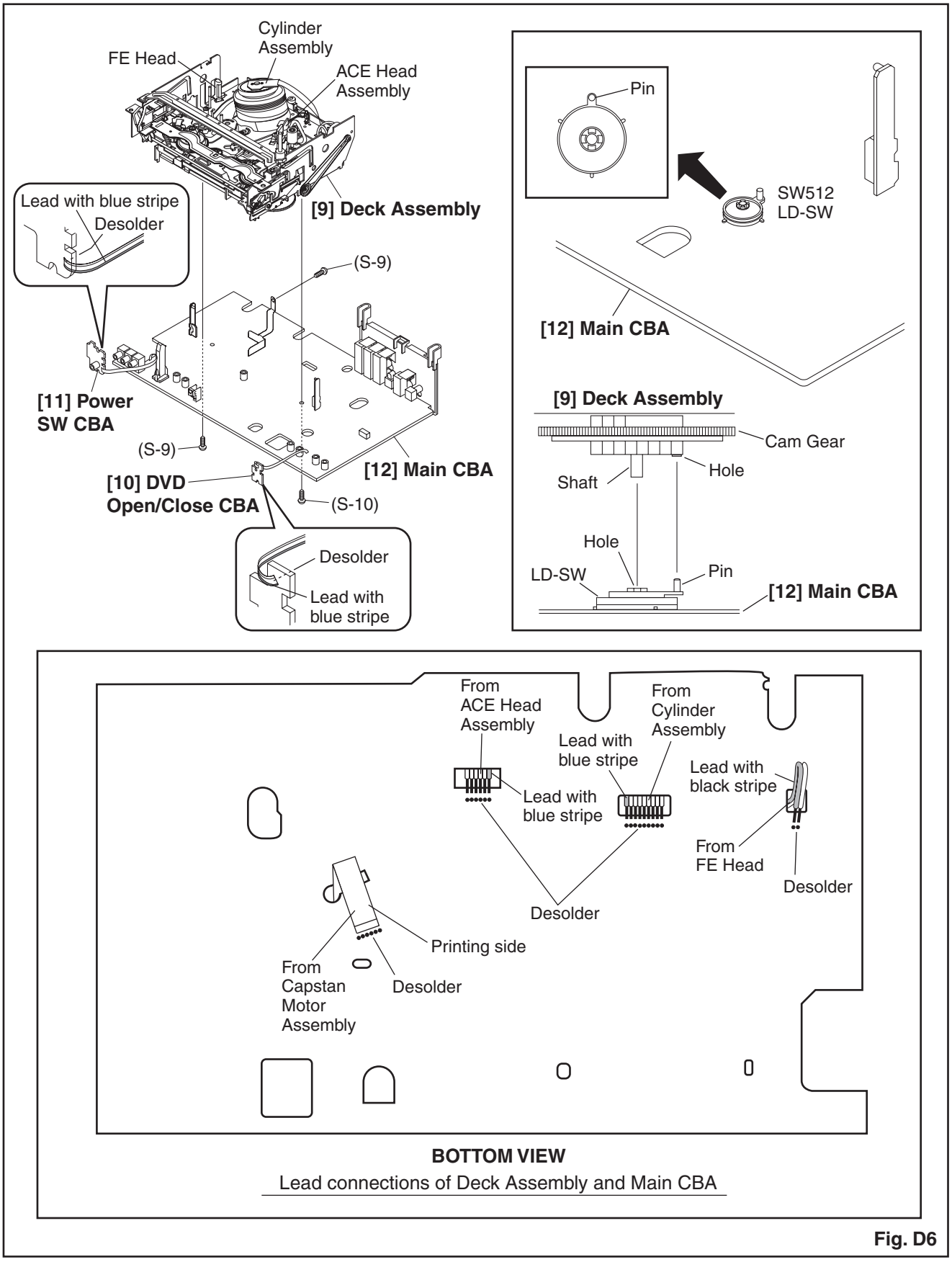


Fig. D5



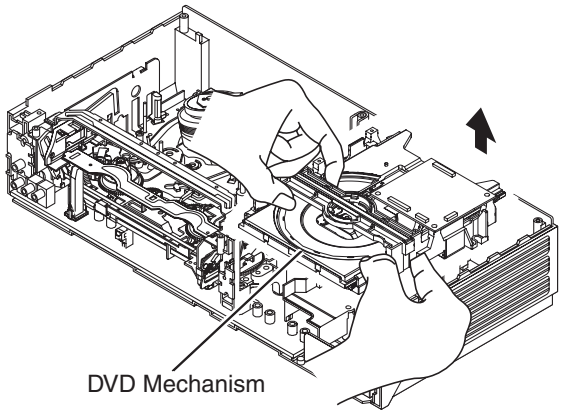
BOTTOM VIEW

Lead connections of Deck Assembly and Main CBA

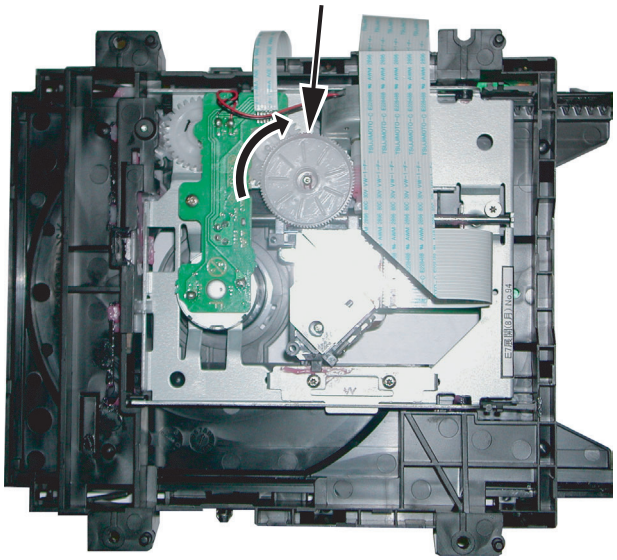
Fig. D6

3. HOW TO EJECT MANUALLY

1. Remove the Top Case, Front Assembly and Top Bracket.
2. Remove four Screws (S-3) in Fig. D3. Do not disconnect connectors.
3. While lifting up the DVD Mechanism, rotate the roulette in the direction of the arrow as shown below.
4. Pull the tray slowly manually.



The gear is turned to the direction of the arrow.



The Back of DVD Mechanism Assembly

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is abbreviation for "Circuit Board Assembly."

NOTE:

1. Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to do these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.
2. To perform these alignment / confirmation procedures, make sure that the tracking control is set in the center position: Press either [TRACKING ▼] or [TRACKING ▲] button on the front panel first, then the [PLAY ►] (VCR) button on the front panel.

Test Equipment Required

1. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50 V/Div.,
   F-Range: DC~AC-20 MHz
2. Alignment Tape (FL8A)

Head Switching Position Adjustment

Purpose: To determine the Head Switching position during playback.

Symptom of Misadjustment: May cause Head Switching noise or vertical jitter in the picture.

Test point	Adj. Point	Mode	Input
TP751(V-OUT) TP302(RF-SW) GND	VR501 (Switching Point)	PLAY (SP)	-----
Tape	**Measurement Equipment**	**Spec.**	
FL8A	Oscilloscope	6.5H ± 1H (412.7µs±63.5µs)	

Connections of Measurement Equipment

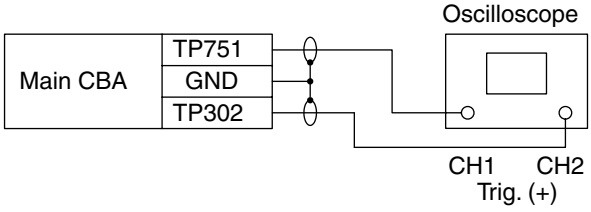
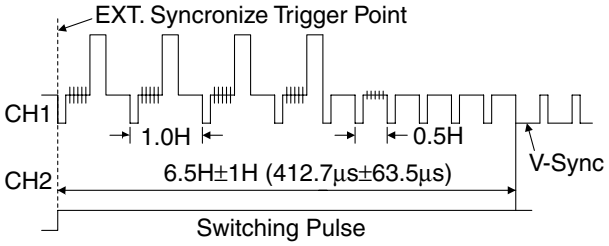


Figure 1



Note: TP751(V-OUT), TP302(RF-SW),
VR501(Switching Point) --- Main CBA

Reference Notes:

Playback the Alignment tape and adjust VR501 so that the V-sync front edge of the CH1 video output waveform is at the 6.5H ± 1H (412.7 µs ± 63.5 µs) delayed position from the rising edge of the CH2 head switching pulse waveform.

HOW TO INITIALIZE THE DVD PLAYER & VCR

To put the program back at the factory-default, initialize the DVD player & VCR as the following procedure.

< DVD Section >

1. Press [DVD], [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in this order. Fig. a appears on the screen.

"*******" differs depending on the models.

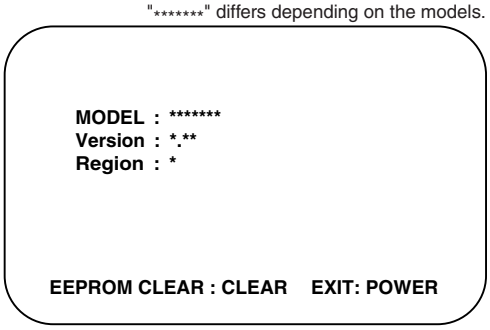


Fig. a

2. Press [CLEAR] button on the remote control unit. Fig. b appears on the screen.

"*******" differs depending on the models.

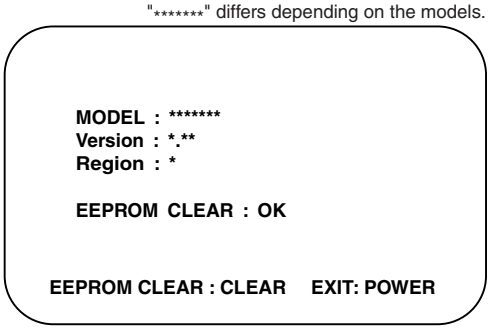


Fig. b

When “OK” appears on the screen, the factory default will be set.

3. To exit this mode, press [⏻] button.

FIRMWARE RENEWAL MODE

1. Turn the power on and remove the disc on the tray.
2. To put the DVD player into version up mode, press [DVD], [9], [8], [7], [6], and [SEARCH] buttons on the remote control unit in that order. The tray will open automatically.
   Fig. a appears on the screen.

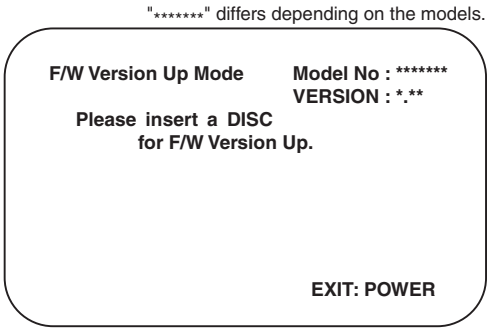


Fig. a Version Up Mode Screen

   The DVD player can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

3. Load the disc for version up.
4. The DVD player enters the F/W version up mode automatically. Fig. b appears on the screen. Make sure to insert the proper F/W for the state of this model.

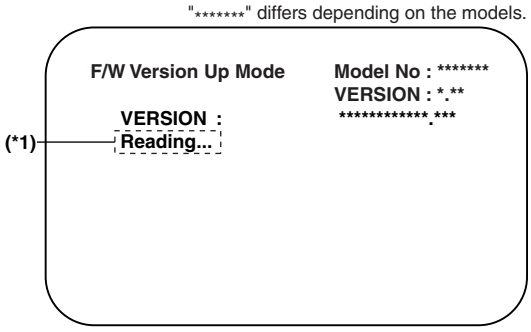


Fig. b Programming Mode Screen

   The appearance shown in (*1) of Fig. b is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. c appears on the screen and the checksum will be shown in (*2) of Fig. c.

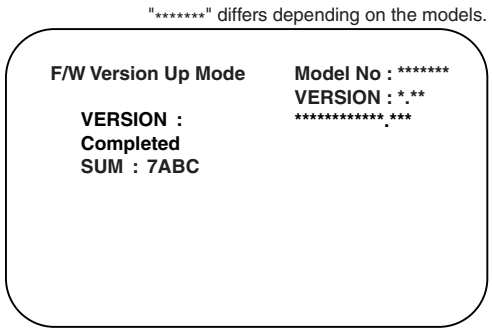


Fig. c Completed Program Mode Screen

   At this time, no button is available.

6. Remove the disc on the tray.
7. Unplug the AC cord from the AC outlet. Then plug it again.
8. Turn the power on by pressing the [⏻] button and the tray will close.
9. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
   Fig. d appears on the screen.

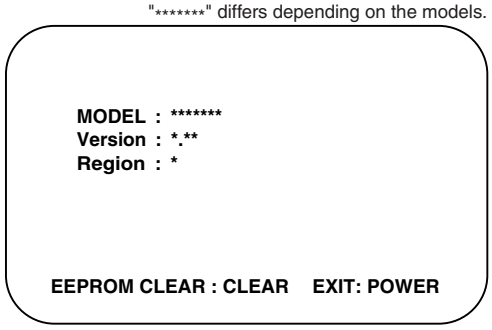


Fig. d

10. Press [CLEAR] button on the remote control unit.
    Fig. e appears on the screen.

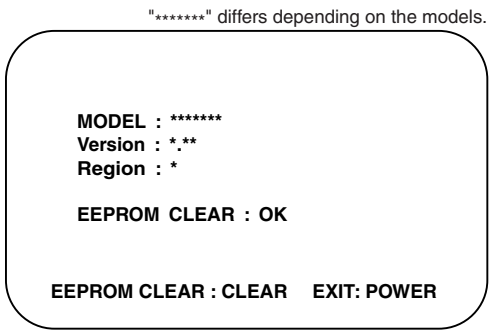


Fig. e

    When “OK” appears on the screen, the factory default will be set. Then the firmware renewal mode is complete.

11. To exit this mode, press [⏻] button.

TROUBLESHOOTING

1 Power Supply Section

FLOW CHART NO.1

The power cannot be turned on.

↓

Is the fuse (F1002) normal? — No → See FLOW CHART No.2 <The fuse blows out.>

↓ Yes

Is normal state restored when once unplugged power cord is plugged again after several seconds. — No → Check for lead or short-circuiting of primary circuit component and service it if defective. (IC1003, Q1002, T1001, D1001, D1002, D1003, D1004, D1011, D1014, C1013, R1013)

↓ Yes

Is the AL+5V(1) line voltage normal? — No → (same as above)

↓ Yes

Check each rectifying circuit of secondary circuit and service it if defective.

FLOW CHART NO.2

The fuse blows out.

↓

Check the presence that the primary component is leaking or shorted and service it if defective.

Check the presence that the rectifying diode or circuit is shorted in each rectifying circuit of secondary side and service it if defective.

↓

After servicing, replace the fuse (F1002).

FLOW CHART NO.3

When the output voltage fluctuates.

↓

Does the secondary side photo coupler circuit operate normally? — No → Check the circuit and service it if defective. (IC1001, D035, D041)

↓ Yes

Check the circuit and service it if defective. (IC1003, D1006, D1007, D1009, D1012)

FLOW CHART NO.4

When buzz sound can be heard in the vicinity of power circuit.

↓

Check if there is short circuit on the rectifying diode and the circuit in each rectifying circuit of secondary side and service it if defective. (D013,D015,D016,D1008,D1010,D1020,IC1002,IC1004,Q055,Q056,Q063,Q1004,Q1006,Q1011)

FLOW CHART NO.5

AL-30V is not outputted.

↓

Is approximately -30V voltage supplied to the anode of D1010? — No → Check D1010, C1002 and their periphery, and service it if defective.

↓ Yes

Check for load circuit short-circuiting or leak, and service it if defective.

FLOW CHART NO.6

P-ON+9V is not outputted.

Is approximately +11V voltage supplied to the collector of Q055?
- No → Check D015, D031, D080, D082, C018, and their periphery, and service it if defective.
- Yes ↓

Is the "L" pulse inputted to the base of Q052?
- No → Replace IC501.
- Yes ↓

Is approximately +10V voltage inputted to the base of Q055?
- No → Check Q052, D052 and their periphery, and service it if defective.
- Yes ↓

Replace Q055.

FLOW CHART NO.7

P-ON+5V is not outputted. (P-ON+9V is outputted normally.)

Is approximately +5V voltage supplied to the collector of Q056?
- No → Check D016, D035, L009, C020, C021, and their periphery, and service it if defective.
- Yes ↓

Is the "H" pulse inputted into the base of Q056?
- No → Check R057 and their periphery, and service it if defective.
- Yes ↓

Replace Q056.

FLOW CHART NO.8

TIMER+5V is not outputted. (AL+5V(1) is outputted normally.)

Is approximately +4.5V voltage inputted to the base of Q063?
- No → Check Q064, D062 and their periphery, and service it if defective.
- Yes ↓

Replace Q063.

FLOW CHART NO.9

AL+18V is not outputted.

Is approximately +20V voltage supplied to the cathode of D013?
- No → Check D013, C013 and their periphery, and service it if defective.
- Yes ↓

Check D504, R092, R095, and service it if defective.

FLOW CHART NO.10

DVD-P-ON+12V is not outputted.

Is approximately +12V voltage supplied to the emitter of Q1006?
- No → Check D015, D031, C018 and their periphery, and service it if defective.
- Yes ↓

Is the "L" pulse (approximately 0V) outputted to the collector of Q1005?
- No → Check Q1005, Q1101 and PWRCON line, and service it if defective.
- Yes ↓

Replace Q1006.

FLOW CHART NO.11

EV+3.3V is not outputted.

↓

Is approximately +4V voltage supplied to Pin(4) of IC1004?

No → Check D1008, C1007 and their periphery, and service it if defective.

↓ Yes

Replace IC1004.

FLOW CHART NO.12

DVD-P-ON+3.3V is not outputted. (DVD-P-ON+12V is outputted normally.)

↓

Is approximately +3.3V voltage supplied to the collector of Q1011?

No → See FLOW CHART NO.11 <EV+3.3V is not outputted.>

↓ Yes

Is the "H" pulse (approximately 4V) inputted to the base of Q1011?

No → Check R1077 and their periphery, and service it if defective.

↓ Yes

Replace Q1011.

FLOW CHART NO.13

DVD-P-ON+5V is not outputted. (DVD-P-ON+12V is outputted normally.)

↓

Is approximately +5V voltage supplied to the collector of Q1004?

No → Check D016, D035, L009, C020, C021 and their periphery, and service it if defective.

↓ Yes

Is the "H" pulse inputted to the base of Q1004?

No → Check R1068 and their periphery, and service it if defective.

↓ Yes

Replace Q1004.

FLOW CHART NO.14

EV+1.2V is not outputted.

↓

Is approximately +2.8V voltage supplied to Pin(4) of IC1002?

No → Check D1020,C1014,L1020, C1015, and their periphery, and service it if defective.

↓ Yes

Replace IC1002.

2 DVD Section

FLOW CHART NO.1

The key operation is not functioning.

↓

Are the contact point and the installation state of the key switches (SW2001, SW2002, SW2003, SW2005, SW2006) normal?

No → Re-install the key switches (SW2001, SW2002, SW2003, SW2005, SW2006) correctly or replace the poor switch.

↓ Yes

When pressing each key switches (SW2001, SW2002, SW2003, SW2005, SW2006), do the voltage of each pin of CN1001 (shown below) change to "H" (+3.3V) from "L" (0V)?
SW2001 → CN1001 24PIN
SW2002 → CN1001 26PIN
SW2003 → CN1001 25PIN
SW2005 → CN1001 18PIN
SW2006 → CN1001 19PIN

No → Check the key switches (SW2001, SW2002, SW2003, SW2005, SW2006) and their periphery, and service it if defective.

↓ Yes

Replace DVD Main CBA Unit.

FLOW CHART NO.2

No DVD operation is possible from the remote control unit. (Operation is possible from the unit.)

↓

Is approximately +5V voltage supplied to Pin(3) terminal of the RM2001 (remote control receiver)?

No → Check AL+5V(1) line, and service it if defective.

↓ Yes

Is the "L" pulse sent out from Pin(1) terminal of the RM2001 (remote control receiver) when the remote control unit is activated?

No → Replace the RM2001 (remote control receiver). Replace remote control unit if needed.

↓ Yes

Is the "L" pulse signal supplied to Pin(22) of CN1001?

No → Is the "H" pulse inputted to the base of Q2014?

Yes → Replace Q2014.

No → Replace IC501.

↓ Yes

Replace the DVD Main CBA Unit.

FLOW CHART NO.3

The disc tray cannot be opened and closed. (It can be done using the remote control unit.)

↓

Does the voltage of Pin(24) on CN1001 become to +3.3V from 0V when pressing "OPEN/CLOSE" button on the unit?

No → Replace the "OPEN/CLOSE" button (SW2001).

↓ Yes

Refer to "FLOW CHAR NO.4" <The disc tray cannot be opened and closed.>

FLOW CHART NO.4

The disc tray cannot be opened and closed. (It can not be done using the unit and the remote control unit.)
The [No Disc] indication.
Both picture and sound do not operate normally.

↓

Replace the DVD Main CBA Unit.

↓

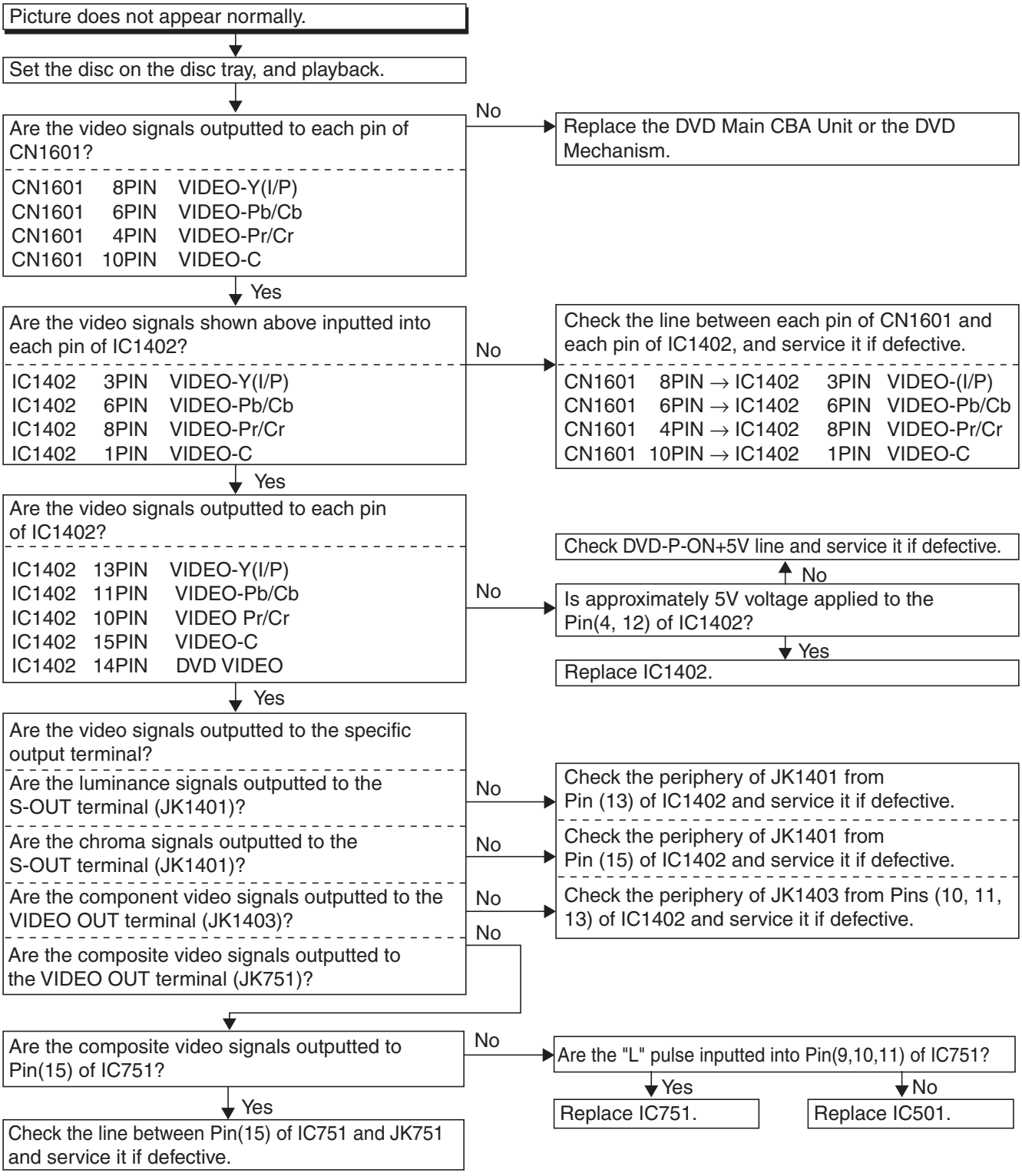
No improvement can be found.

No → Original DVD Main CBA Unit is poor.

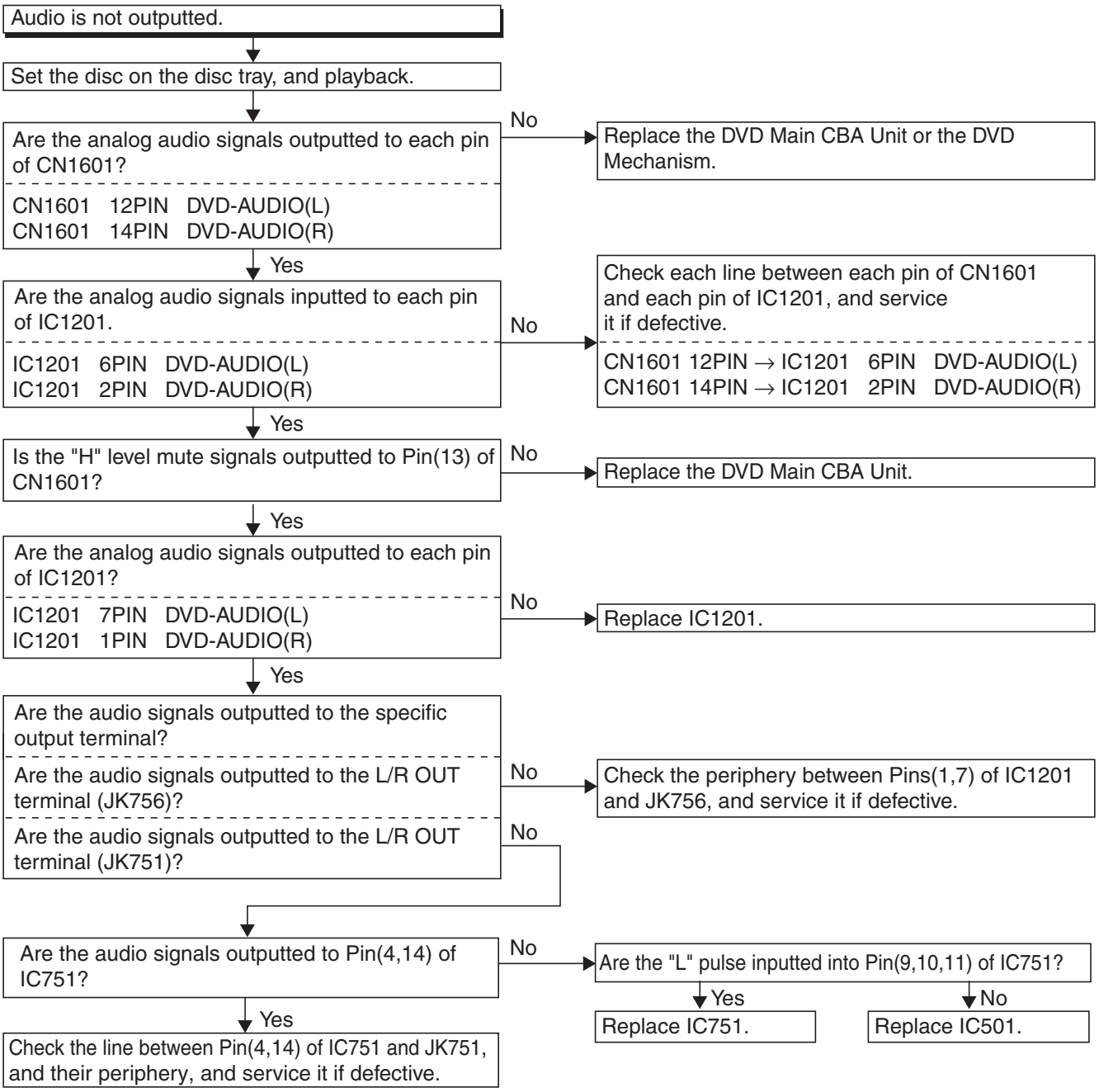
↓ Yes

Replace the DVD Mechanism.

FLOW CHART NO.5


Picture does not appear normally.
Set the disc on the disc tray, and playback.
Are the video signals outputted to each pin of CN1601?
CN1601 8PIN VIDEO-Y(I/P)
CN1601 6PIN VIDEO-Pb/Cb
CN1601 4PIN VIDEO-Pr/Cr
CN1601 10PIN VIDEO-C
No
Replace the DVD Main CBA Unit or the DVD Mechanism.
Yes
Are the video signals shown above inputted into each pin of IC1402?
IC1402 3PIN VIDEO-Y(I/P)
IC1402 6PIN VIDEO-Pb/Cb
IC1402 8PIN VIDEO-Pr/Cr
IC1402 1PIN VIDEO-C
No
Check the line between each pin of CN1601 and each pin of IC1402, and service it if defective.
CN1601 8PIN → IC1402 3PIN VIDEO-(I/P)
CN1601 6PIN → IC1402 6PIN VIDEO-Pb/Cb
CN1601 4PIN → IC1402 8PIN VIDEO-Pr/Cr
CN1601 10PIN → IC1402 1PIN VIDEO-C
Yes
Are the video signals outputted to each pin of IC1402?
IC1402 13PIN VIDEO-Y(I/P)
IC1402 11PIN VIDEO-Pb/Cb
IC1402 10PIN VIDEO Pr/Cr
IC1402 15PIN VIDEO-C
IC1402 14PIN DVD VIDEO
No
Check DVD-P-ON+5V line and service it if defective.
No
Is approximately 5V voltage applied to the Pin(4, 12) of IC1402?
Yes
Replace IC1402.
Yes
Are the video signals outputted to the specific output terminal?
Are the luminance signals outputted to the S-OUT terminal (JK1401)?
No
Check the periphery of JK1401 from Pin (13) of IC1402 and service it if defective.
Are the chroma signals outputted to the S-OUT terminal (JK1401)?
No
Check the periphery of JK1401 from Pin (15) of IC1402 and service it if defective.
Are the component video signals outputted to the VIDEO OUT terminal (JK1403)?
No
Check the periphery of JK1403 from Pins (10, 11, 13) of IC1402 and service it if defective.
Are the composite video signals outputted to the VIDEO OUT terminal (JK751)?
No
Are the composite video signals outputted to Pin(15) of IC751?
No
Are the "L" pulse inputted into Pin(9,10,11) of IC751?
Yes
Replace IC751.
No
Replace IC501.
Yes
Check the line between Pin(15) of IC751 and JK751 and service it if defective.

FLOW CHART NO.6


Audio is not outputted.
Set the disc on the disc tray, and playback.
Are the analog audio signals outputted to each pin of CN1601?
CN1601 12PIN DVD-AUDIO(L)
CN1601 14PIN DVD-AUDIO(R)
No
Replace the DVD Main CBA Unit or the DVD Mechanism.
Yes
Are the analog audio signals inputted to each pin of IC1201.
IC1201 6PIN DVD-AUDIO(L)
IC1201 2PIN DVD-AUDIO(R)
No
Check each line between each pin of CN1601 and each pin of IC1201, and service it if defective.
CN1601 12PIN → IC1201 6PIN DVD-AUDIO(L)
CN1601 14PIN → IC1201 2PIN DVD-AUDIO(R)
Yes
Is the "H" level mute signals outputted to Pin(13) of CN1601?
No
Replace the DVD Main CBA Unit.
Yes
Are the analog audio signals outputted to each pin of IC1201?
IC1201 7PIN DVD-AUDIO(L)
IC1201 1PIN DVD-AUDIO(R)
No
Replace IC1201.
Yes
Are the audio signals outputted to the specific output terminal?
Are the audio signals outputted to the L/R OUT terminal (JK756)?
No
Check the periphery between Pins(1,7) of IC1201 and JK756, and service it if defective.
Are the audio signals outputted to the L/R OUT terminal (JK751)?
No
Are the audio signals outputted to Pin(4,14) of IC751?
No
Are the "L" pulse inputted into Pin(9,10,11) of IC751?
Yes
Replace IC751.
No
Replace IC501.
Yes
Check the line between Pin(4,14) of IC751 and JK751, and their periphery, and service it if defective.

3 VCR Section

FLOW CHART NO.1

The key operation is not functioning.

↓

Are the contact point and the installation state of the key switches normal?

No → Re-install some key switches correctly or replace some key switches.

↓ Yes

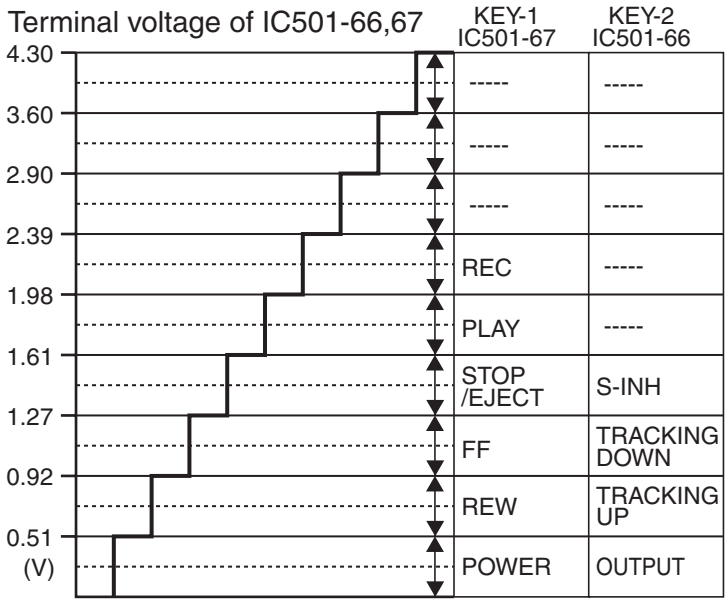
Is the control voltage normally inputted into Pin(66,67) of IC501?

No → Check the key switches and their periphery, and service it if defective.

↓ Yes

Replace IC501.

Terminal voltage of IC501-66,67



FLOW CHART NO.2

No VCR operation is possible from the remote control unit. (Operation is possible from the unit.)

↓

Is approximately +5V voltage supplied to the Pin(3) terminal of the RM2001 (remote control receiver)?

No → Check AL+5V(1) line and service it if defective.

↓ Yes

Is the "L" pulse sent out from Pin(1) terminal of the RM2001 (remote control receiver) when the remote control unit is activated?

No → Replace the RM2001 (remote control receiver) or replace remote control unit.

↓ Yes

Is the "L" pulse signal supplied to the Pin(5) of IC501?

No → Check the line between the RM2001 (remote control receiver) and the Pin(5) of IC501, and service it if defective.

↓ Yes

Replace IC501.

FLOW CHART NO.3

Cassette tape can not be loaded.

↓

When loading a cassette tape, on Pin(69) of IC501, does the "L" pulse switch to the "H" pulse?

No → Check the line between the start sensor and Pin(69) of IC501, and service it if defective.

↓ Yes

When loading a cassette tape, is the specified voltage (approximately 13V) outputted to the terminal of the Loading Motor Unit?

No → Replace the Capstan Motor Unit.

↓ Yes

Replace the Loading Motor Unit.

FLOW CHART NO.4

Cassette tape is ejected right after the loading.

↓

When loading a cassette tape, on Pin(69) of IC501, does the "L" pulse switch to the "H" pulse?

No → Check the line between the start sensor and Pin(69) of IC501, and service it if defective.

↓ Yes

When loading a cassette tape, on Pin(62) of IC501, does the "L" pulse switch to the "H" pulse?

No → Check the line between the end sensor and Pin(62) of IC501, and service it if defective.

↓ Yes

When loading a cassette tape, does the LD-SW operate normally?

No → Check the line between the LD-SW(SW512) and Pin(68) of IC501, and service it if defective.

↓ Yes

Replace IC501.

FLOW CHART NO.5

Cassette tape can not be ejected.

↓

When pressing the eject button, does the Capstan Motor start rotating?

No → Refer to "FLOW CHART NO.6 " <The Capstan Motor does not rotate>.

↓ Yes

While the Capstan Motor is rotating, is the Takeup Reel rotating?

No → Check the Reel Disc or Clutch Assembly, etc., and service it if defective.

↓ Yes

While the Takeup Reel is rotating, is the reel pulse signal inputted to Pin(3) of IC501?

No → Check the line between the Takeup Reel sensor and Pin(3) of IC501, and service it if defective.

↓ Yes

While the reel pulse signal is inputting, is "L" pulse inputted to Pin(21) of IC501?

No → Replace IC501.

↓ Yes

Is the specified voltage (approximately 13V) outputted to the terminal of the Lading Motor?

No → Replace the Capstan Motor.

↓ Yes

Is the Loading Motor rotating?

No → Replace the Loading Motor.

↓ Yes

Check the Cam Gear or Rack Assembly, etc, and service it if defective.

FLOW CHART NO.6

Capstan Motor does not rotate.

↓

Is approximately +5V voltage supplied to Pin(2) of CN502?

No → Check the P-ON+5V line and service it if detective.

↓ Yes

Is over approximately 2.6V voltage supplied to Pin(5) of CN502?

No → Check the line between Pin(5) of CN502 and Pin(28) of IC501, and service it if detective.

↓ Yes

Is approximately +12V voltage supplied to Pin(1,11) of CN502?

No → Check the AL+12V line and service it if detective.

↓ Yes

Replace the Capstan Motor.

FLOW CHART NO.7

Drum Motor does not rotate.

↓

Is approximately +5V voltage supplied to Pin(2) of CN502?

No → Check the P-ON+5V line and service it if detective.

↓ Yes

Is over approximately 2.6V voltage supplied to Pin(8) of CN502?

No → Check the line between Pin(8) of CN502 and Pin(29) of IC501, and service it if detective.

↓ Yes

Is approximately +12V voltage supplied at Pin(1,11) of CN502?

No → Check the AL+12V line and service it if detective.

↓ Yes

Replace the Capstan Motor or Cylinder Assembly.

FLOW CHART NO.8

Drum Motor rotates only for a few seconds.

↓

Is the drum PG/FG signal inputted to Pin(47) of IC501?

No → Replace the Capstan Motor or the Cylinder Assembly.

↓ Yes

Is the RF-SW signal outputted to Pin(18) of IC501?

No → Replace IC501.

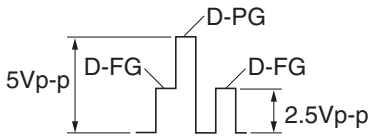
↓ Yes

Is approximately +12V voltage supplied Pin(1,11) of CN502?

No → Check the AL+12V line and service it if detective.

↓ Yes

Replace the Capstan Motor or the Cylinder Assembly.



DRUM PG/FG SIGNAL WAVEFORM

FLOW CHART NO.9

RF-SW signal is not outputted.

↓

Is the Drum Motor rotating?

No → Refer to "FLOW CHART NO.7" <Drum Motor does not rotate> and "FLOW CHART NO.8" <Drum Motor rotates only for a few seconds>.

↓ Yes

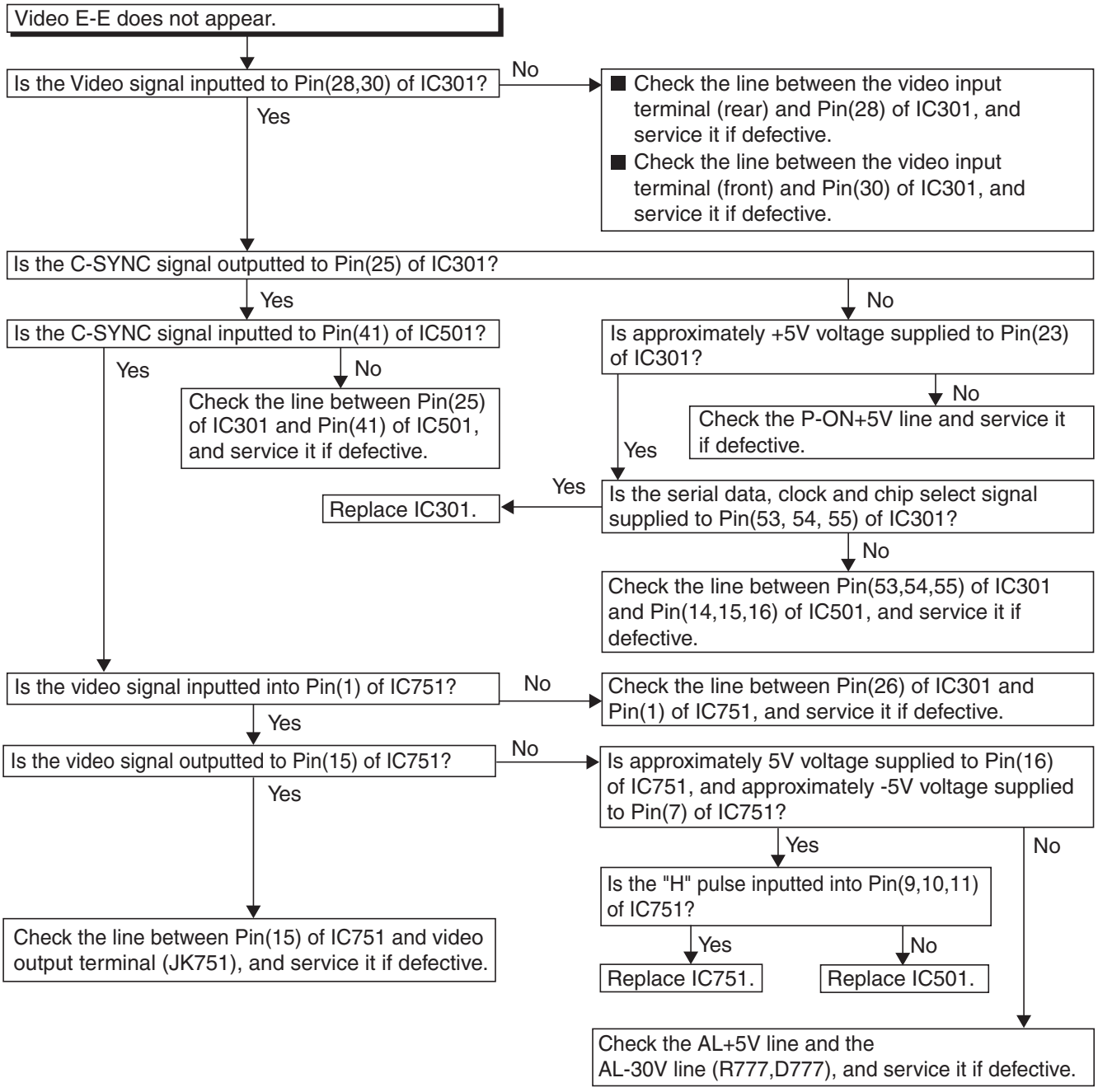
Is the drum PG/FG signal inputted to Pin(47) of IC501?

No → Replace the Capstan Motor or the Cylinder Assembly.

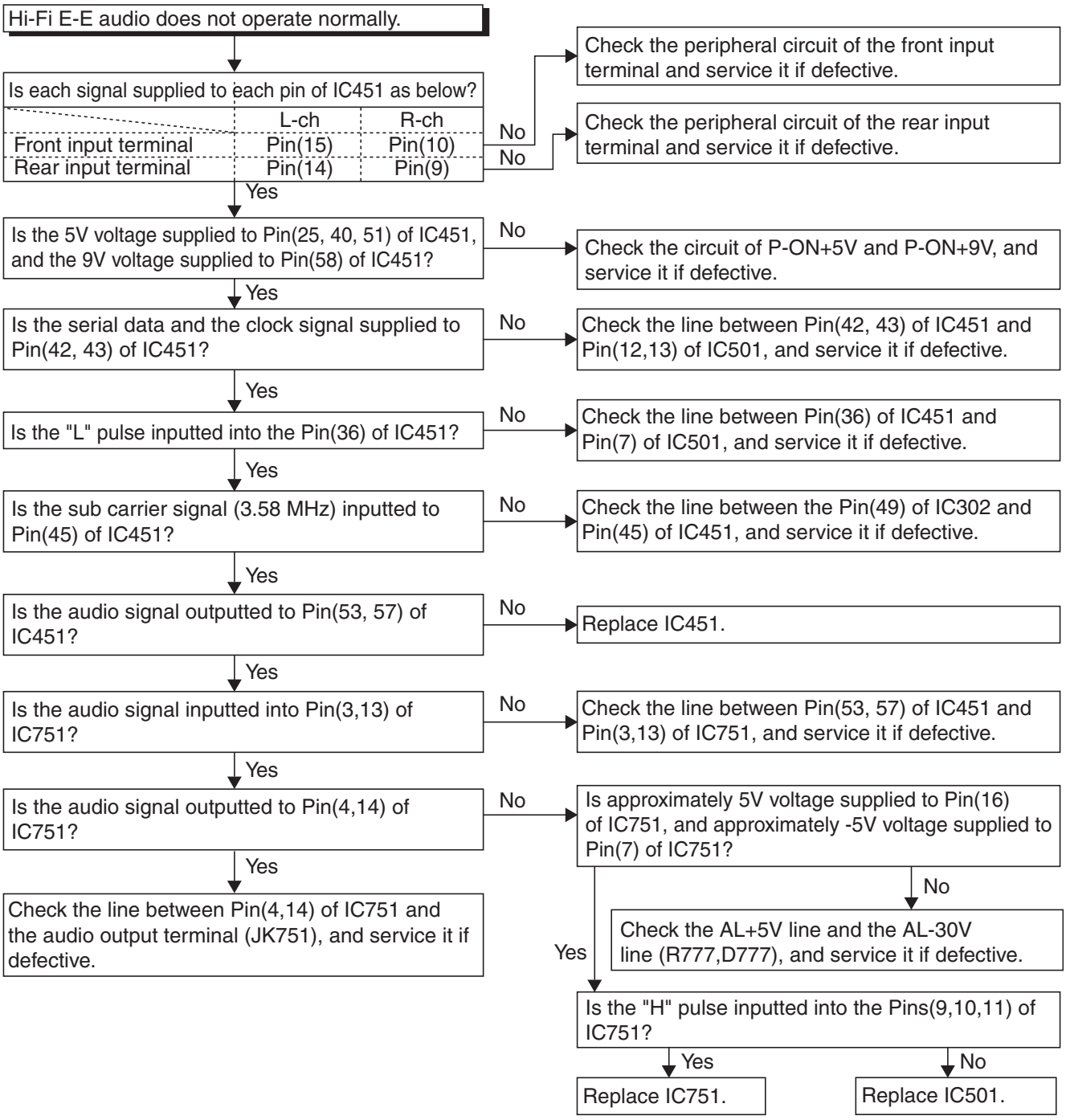
↓ Yes

Replace IC501.

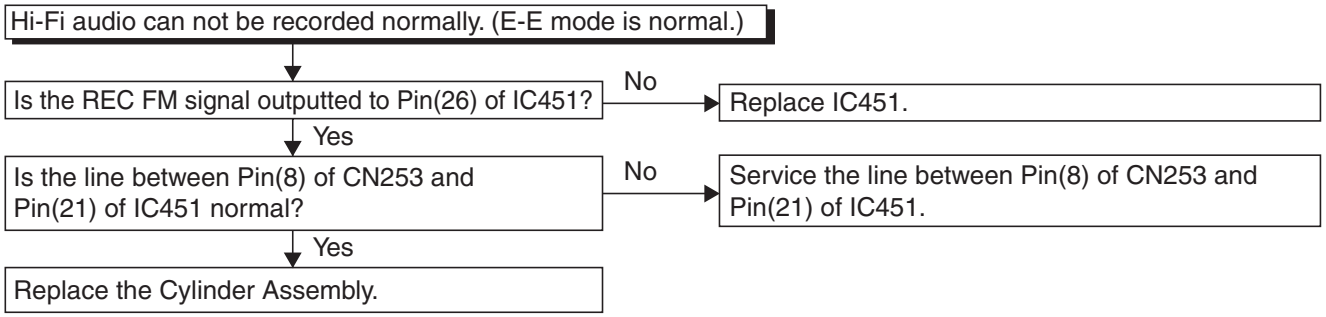
FLOW CHART NO.10


Video E-E does not appear.
Is the Video signal inputted to Pin(28,30) of IC301?
No
■ Check the line between the video input terminal (rear) and Pin(28) of IC301, and service it if defective.
■ Check the line between the video input terminal (front) and Pin(30) of IC301, and service it if defective.
Yes
Is the C-SYNC signal outputted to Pin(25) of IC301?
Yes
No
Is the C-SYNC signal inputted to Pin(41) of IC501?
Is approximately +5V voltage supplied to Pin(23) of IC301?
Yes
No
Check the line between Pin(25) of IC301 and Pin(41) of IC501, and service it if defective.
No
Check the P-ON+5V line and service it if defective.
Yes
Yes
Is the serial data, clock and chip select signal supplied to Pin(53, 54, 55) of IC301?
Replace IC301.
No
Check the line between Pin(53,54,55) of IC301 and Pin(14,15,16) of IC501, and service it if defective.
Is the video signal inputted into Pin(1) of IC751?
No
Check the line between Pin(26) of IC301 and Pin(1) of IC751, and service it if defective.
Yes
Is the video signal outputted to Pin(15) of IC751?
No
Is approximately 5V voltage supplied to Pin(16) of IC751, and approximately -5V voltage supplied to Pin(7) of IC751?
Yes
Yes
No
Is the "H" pulse inputted into Pin(9,10,11) of IC751?
Check the line between Pin(15) of IC751 and video output terminal (JK751), and service it if defective.
Yes
No
Replace IC751.
Replace IC501.
Check the AL+5V line and the AL-30V line (R777,D777), and service it if defective.

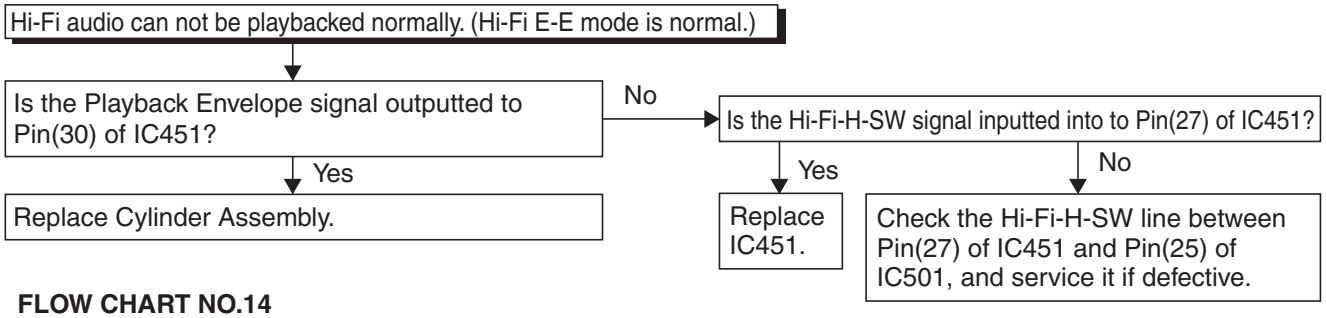
FLOW CHART NO.11


Hi-Fi E-E audio does not operate normally.
Is each signal supplied to each pin of IC451 as below?
L-ch
R-ch
Front input terminal
Pin(15)
Pin(10)
Rear input terminal
Pin(14)
Pin(9)
No
No
Check the peripheral circuit of the front input terminal and service it if defective.
Check the peripheral circuit of the rear input terminal and service it if defective.
Yes
Is the 5V voltage supplied to Pin(25, 40, 51) of IC451, and the 9V voltage supplied to Pin(58) of IC451?
No
Check the circuit of P-ON+5V and P-ON+9V, and service it if defective.
Yes
Is the serial data and the clock signal supplied to Pin(42, 43) of IC451?
No
Check the line between Pin(42, 43) of IC451 and Pin(12,13) of IC501, and service it if defective.
Yes
Is the "L" pulse inputted into the Pin(36) of IC451?
No
Check the line between Pin(36) of IC451 and Pin(7) of IC501, and service it if defective.
Yes
Is the sub carrier signal (3.58 MHz) inputted to Pin(45) of IC451?
No
Check the line between the Pin(49) of IC302 and Pin(45) of IC451, and service it if defective.
Yes
Is the audio signal outputted to Pin(53, 57) of IC451?
No
Replace IC451.
Yes
Is the audio signal inputted into Pin(3,13) of IC751?
No
Check the line between Pin(53, 57) of IC451 and Pin(3,13) of IC751, and service it if defective.
Yes
Is the audio signal outputted to Pin(4,14) of IC751?
No
Is approximately 5V voltage supplied to Pin(16) of IC751, and approximately -5V voltage supplied to Pin(7) of IC751?
No
Check the AL+5V line and the AL-30V line (R777,D777), and service it if defective.
Yes
Yes
Check the line between Pin(4,14) of IC751 and the audio output terminal (JK751), and service it if defective.
Is the "H" pulse inputted into the Pins(9,10,11) of IC751?
Yes
No
Replace IC751.
Replace IC501.

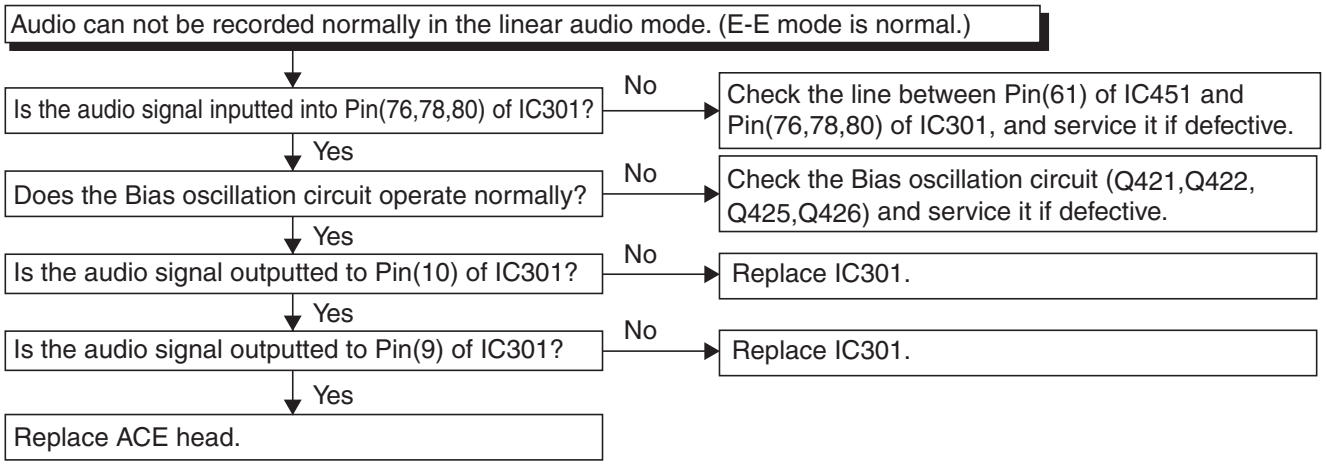
FLOW CHART NO.12


Hi-Fi audio can not be recorded normally. (E-E mode is normal.)
Is the REC FM signal outputted to Pin(26) of IC451?
No
Replace IC451.
Yes
Is the line between Pin(8) of CN253 and Pin(21) of IC451 normal?
No
Service the line between Pin(8) of CN253 and Pin(21) of IC451.
Yes
Replace the Cylinder Assembly.

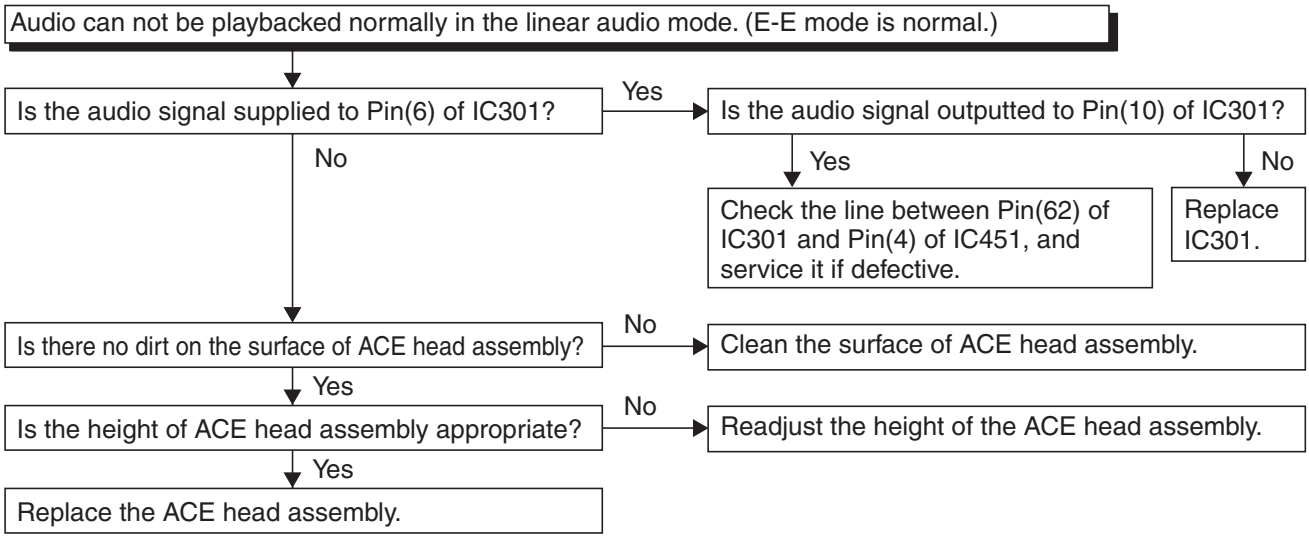
FLOW CHART NO.13


Hi-Fi audio can not be playbacked normally. (Hi-Fi E-E mode is normal.)
Is the Playback Envelope signal outputted to Pin(30) of IC451?
No
Is the Hi-Fi-H-SW signal inputted into to Pin(27) of IC451?
Yes
No
Yes
Replace Cylinder Assembly.
Replace IC451.
Check the Hi-Fi-H-SW line between Pin(27) of IC451 and Pin(25) of IC501, and service it if defective.

FLOW CHART NO.14


Audio can not be recorded normally in the linear audio mode. (E-E mode is normal.)
Is the audio signal inputted into Pin(76,78,80) of IC301?
No
Check the line between Pin(61) of IC451 and Pin(76,78,80) of IC301, and service it if defective.
Yes
Does the Bias oscillation circuit operate normally?
No
Check the Bias oscillation circuit (Q421,Q422, Q425,Q426) and service it if defective.
Yes
Is the audio signal outputted to Pin(10) of IC301?
No
Replace IC301.
Yes
Is the audio signal outputted to Pin(9) of IC301?
No
Replace IC301.
Yes
Replace ACE head.

FLOW CHART NO.15


Audio can not be playbacked normally in the linear audio mode. (E-E mode is normal.)
Is the audio signal supplied to Pin(6) of IC301?
Yes
Is the audio signal outputted to Pin(10) of IC301?
No
Yes
No
Check the line between Pin(62) of IC301 and Pin(4) of IC451, and service it if defective.
Replace IC301.
Is there no dirt on the surface of ACE head assembly?
No
Clean the surface of ACE head assembly.
Yes
Is the height of ACE head assembly appropriate?
No
Readjust the height of the ACE head assembly.
Yes
Replace the ACE head assembly.

FUNCTION INDICATOR SYMBOLS

Note: If a mechanical malfunction occurs, the power is turned off. When the power comes on again after that by pressing [POWER ON] button, an error message is displayed on the TV screen for 5 seconds.

Cause	Indicator Active
When reel or capstan mechanism is not functioning correctly	"EJECT ⏏ R" is displayed on a TV screen. (Refer to Fig. 1.)
When tape loading mechanism is not functioning correctly	"EJECT ⏏ T" is displayed on a TV screen. (Refer to Fig. 2.)
When cassette loading mechanism is not functioning correctly	"EJECT ⏏ C" is displayed on a TV screen. (Refer to Fig. 3.)
When the drum is not working properly	"EJECT ⏏ D" is displayed on a TV screen. (Refer to Fig. 4.)
P-ON+5V Power safety detection	"EJECT ⏏ P" is displayed on a TV screen. (Refer to Fig. 5.)

TV screen

When reel or capstan mechanism is not functioning correctly

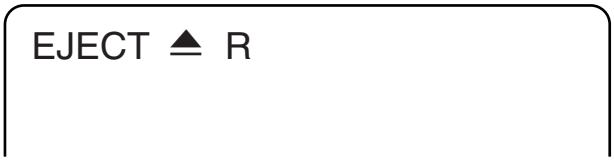


Fig. 1

When tape loading mechanism is not functioning correctly

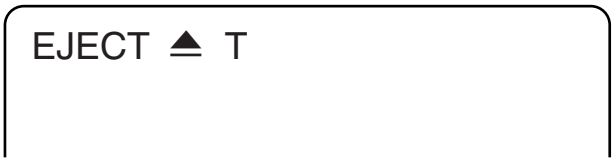


Fig. 2

When cassette loading mechanism is not functioning correctly

Fig. 3

When the drum is not working properly

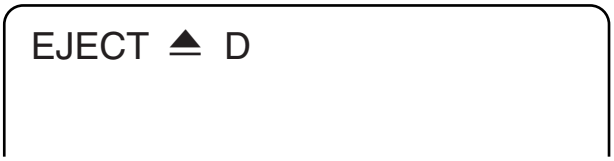


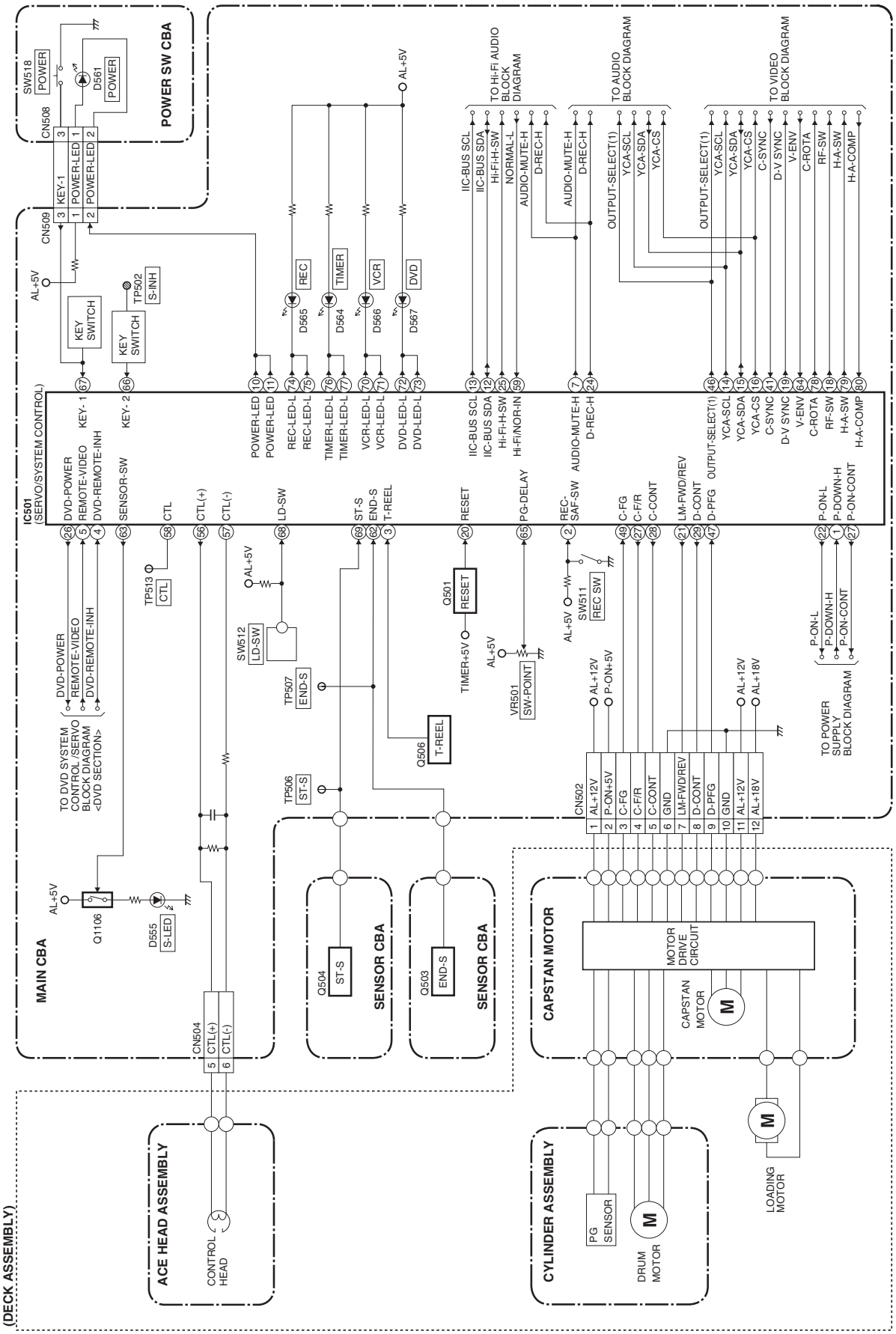
Fig. 4

P-ON+5V Power safety detection

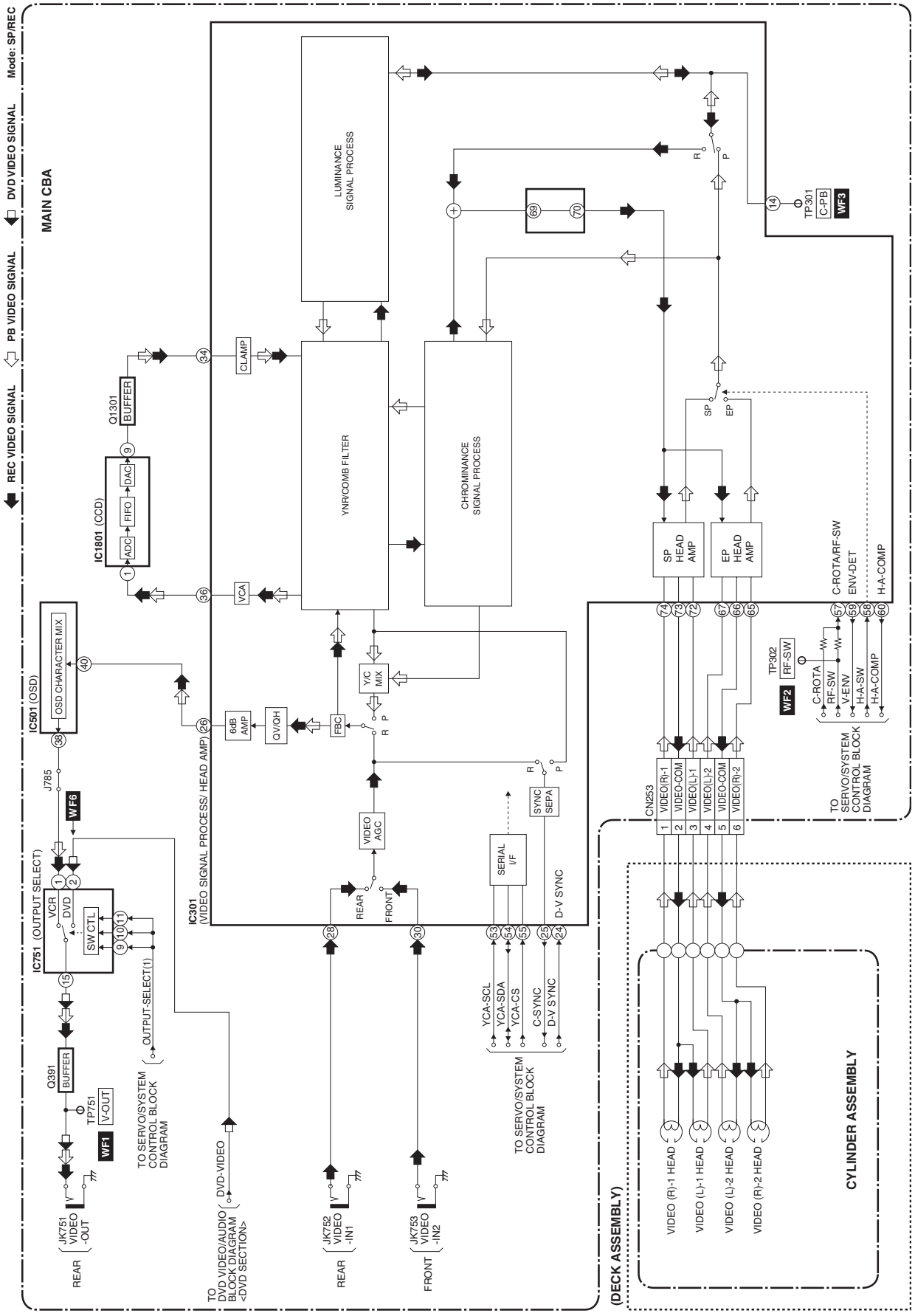
Fig. 5

BLOCK DIAGRAMS <VCR SECTION>

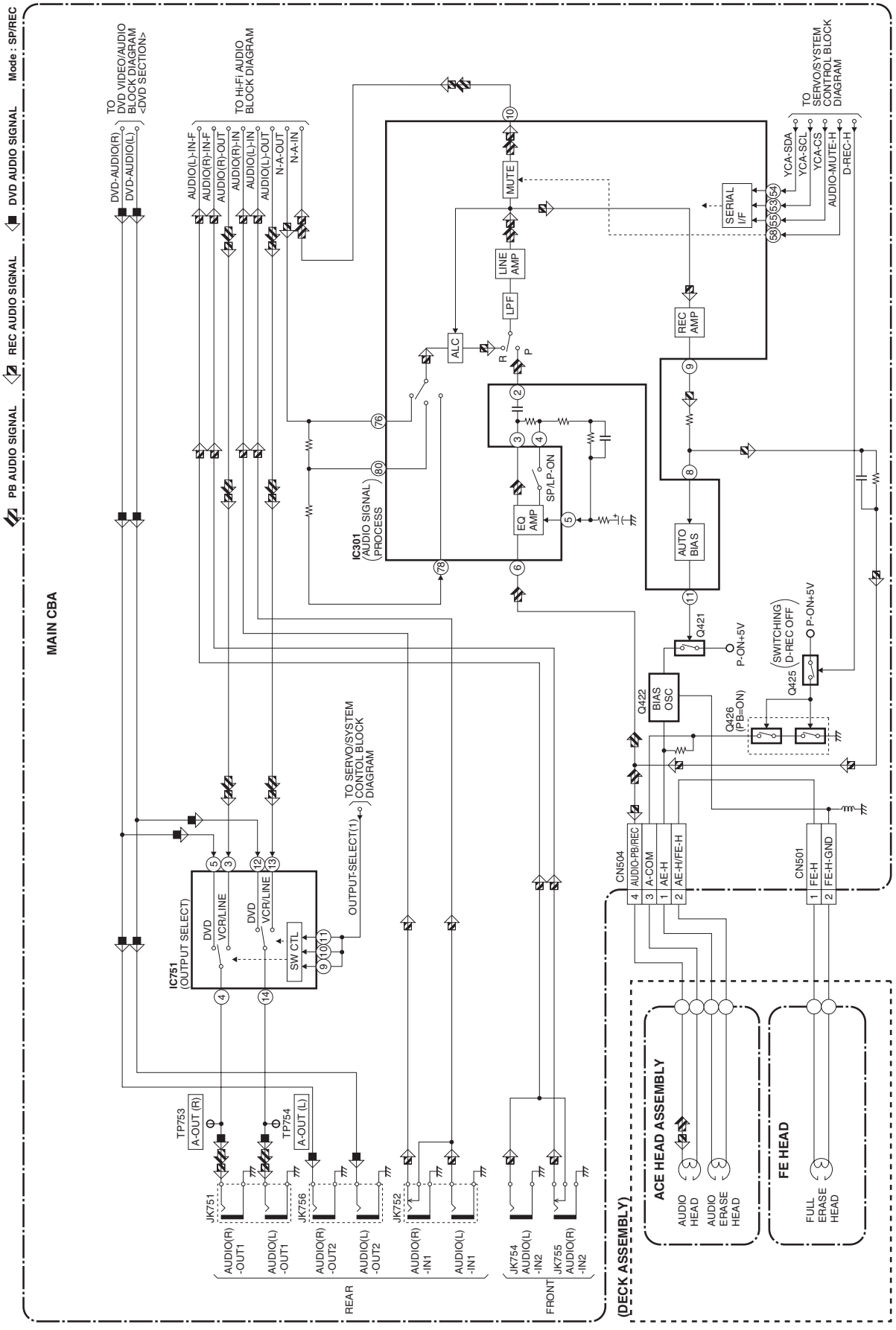
Servo / System Control Block Diagram



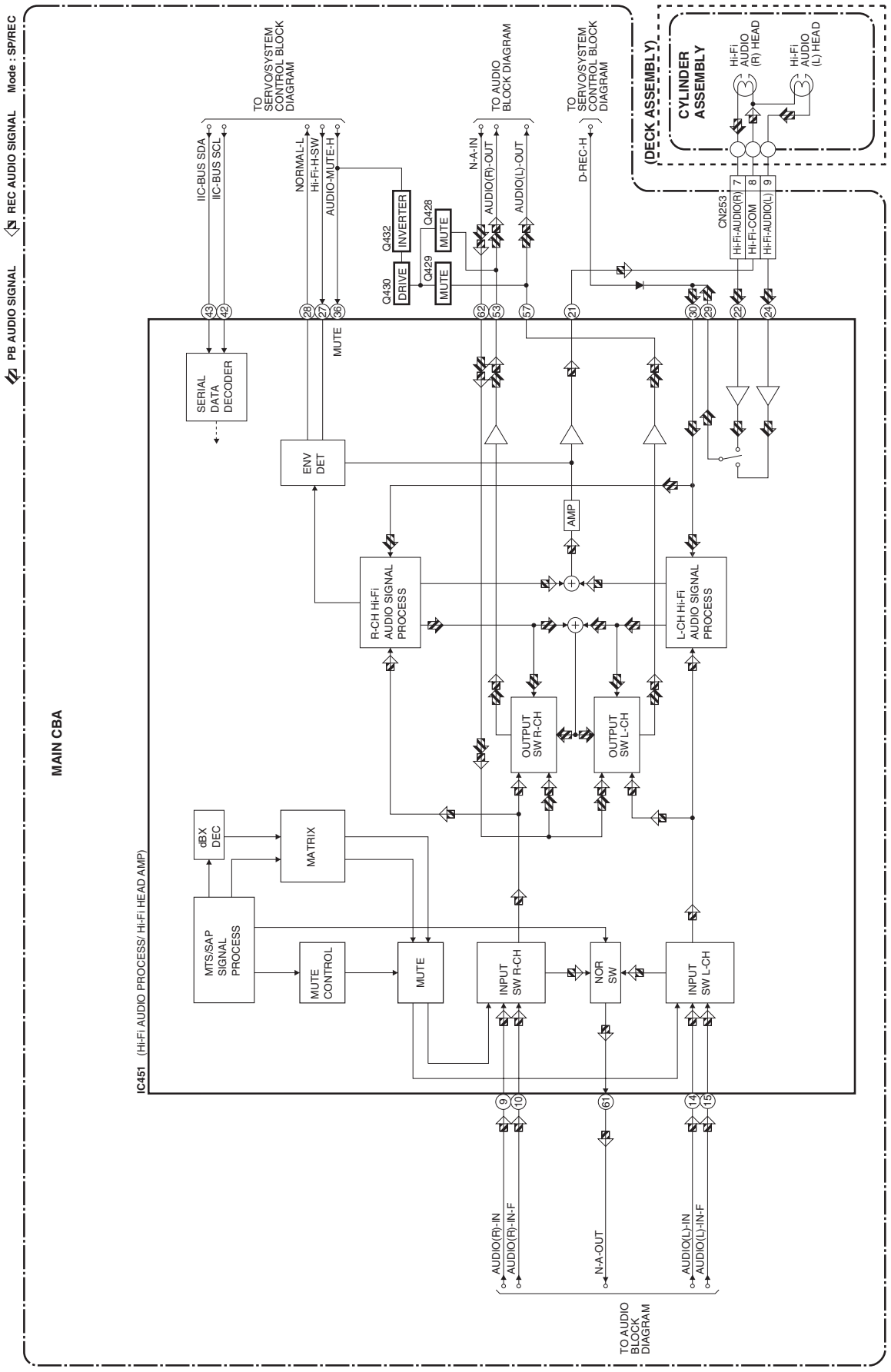
Video Block Diagram



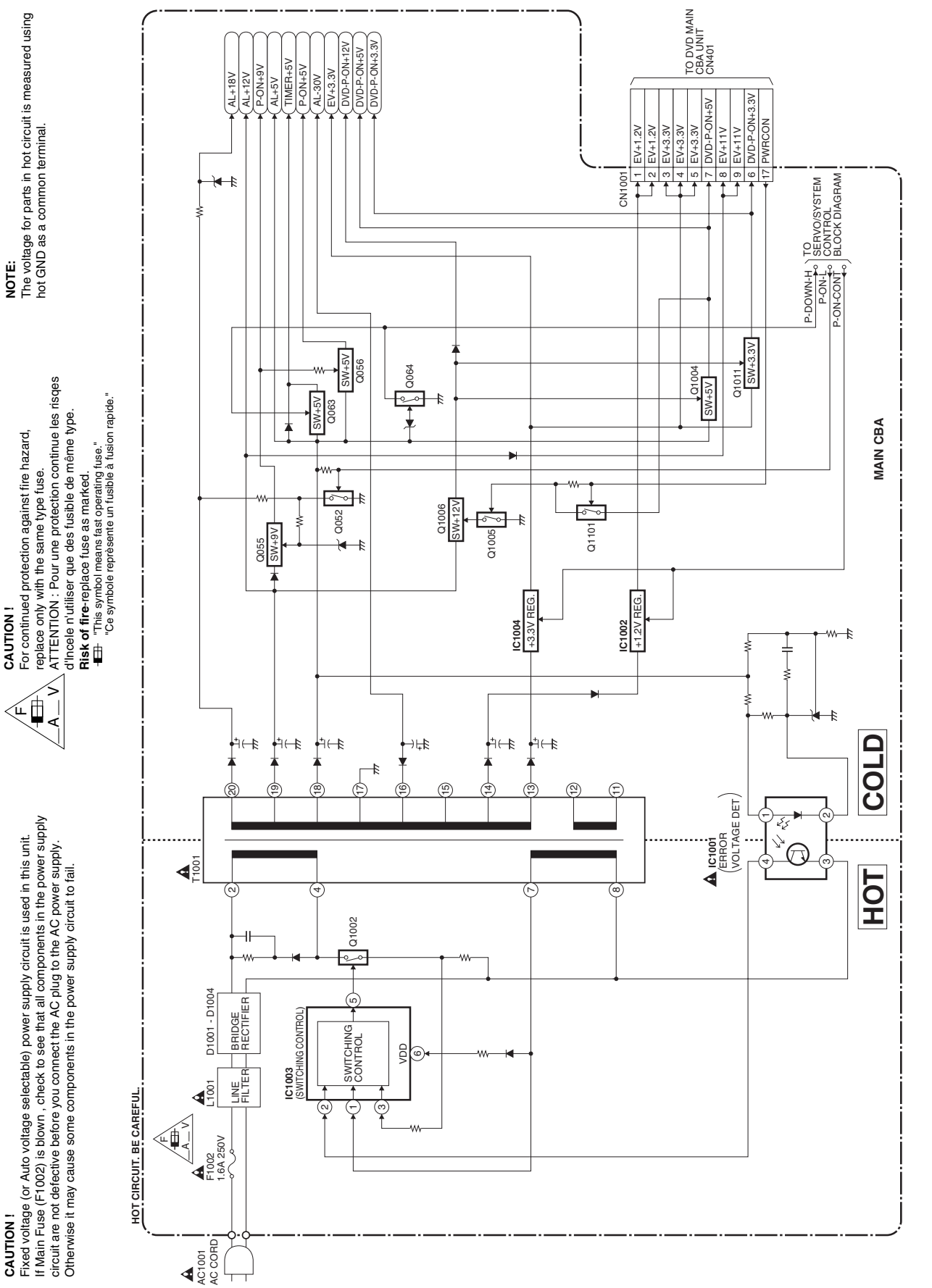
Audio Block Diagram



Hi-Fi Audio Block Diagram



Power Supply Block Diagram



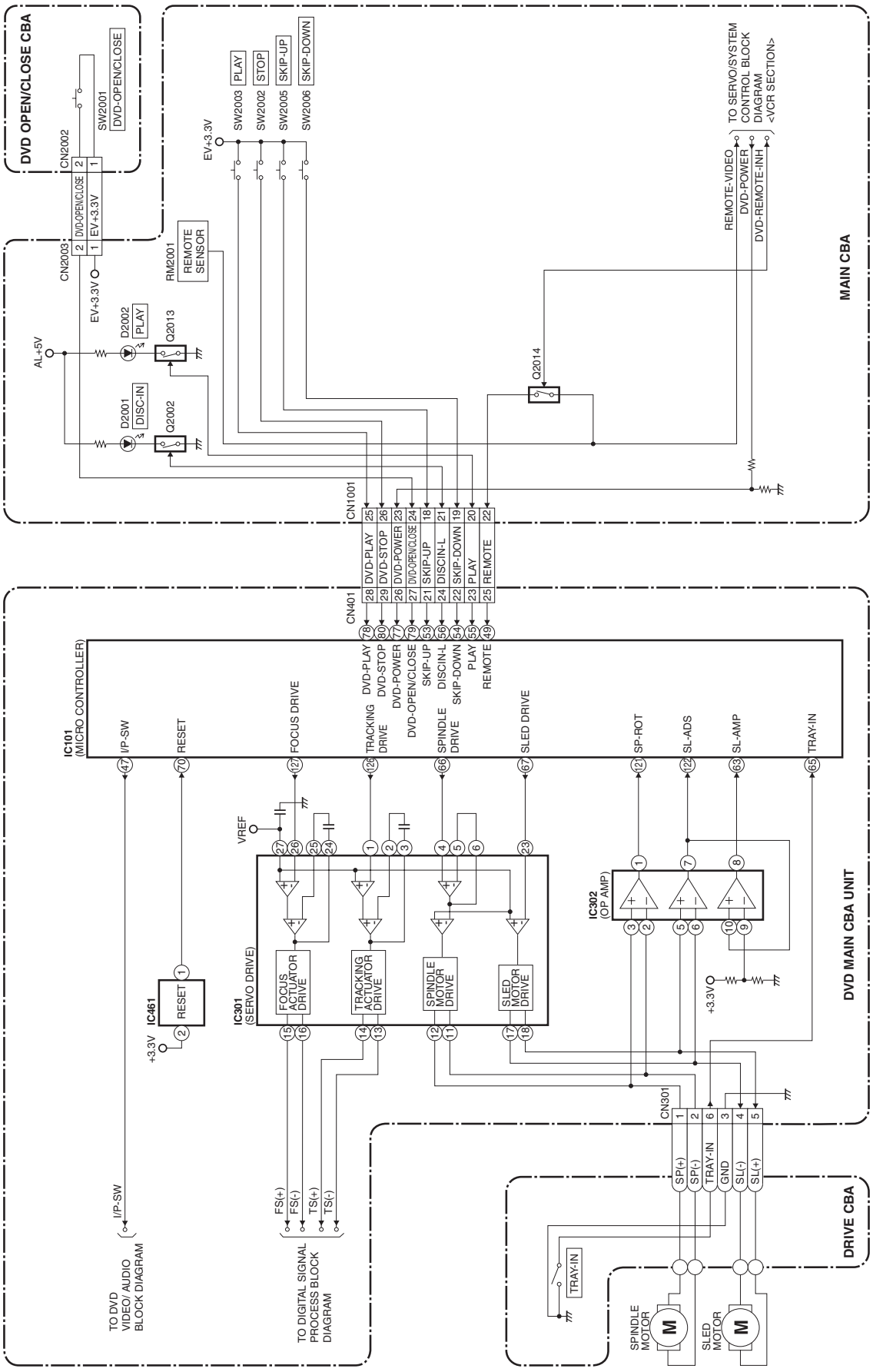
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1002) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

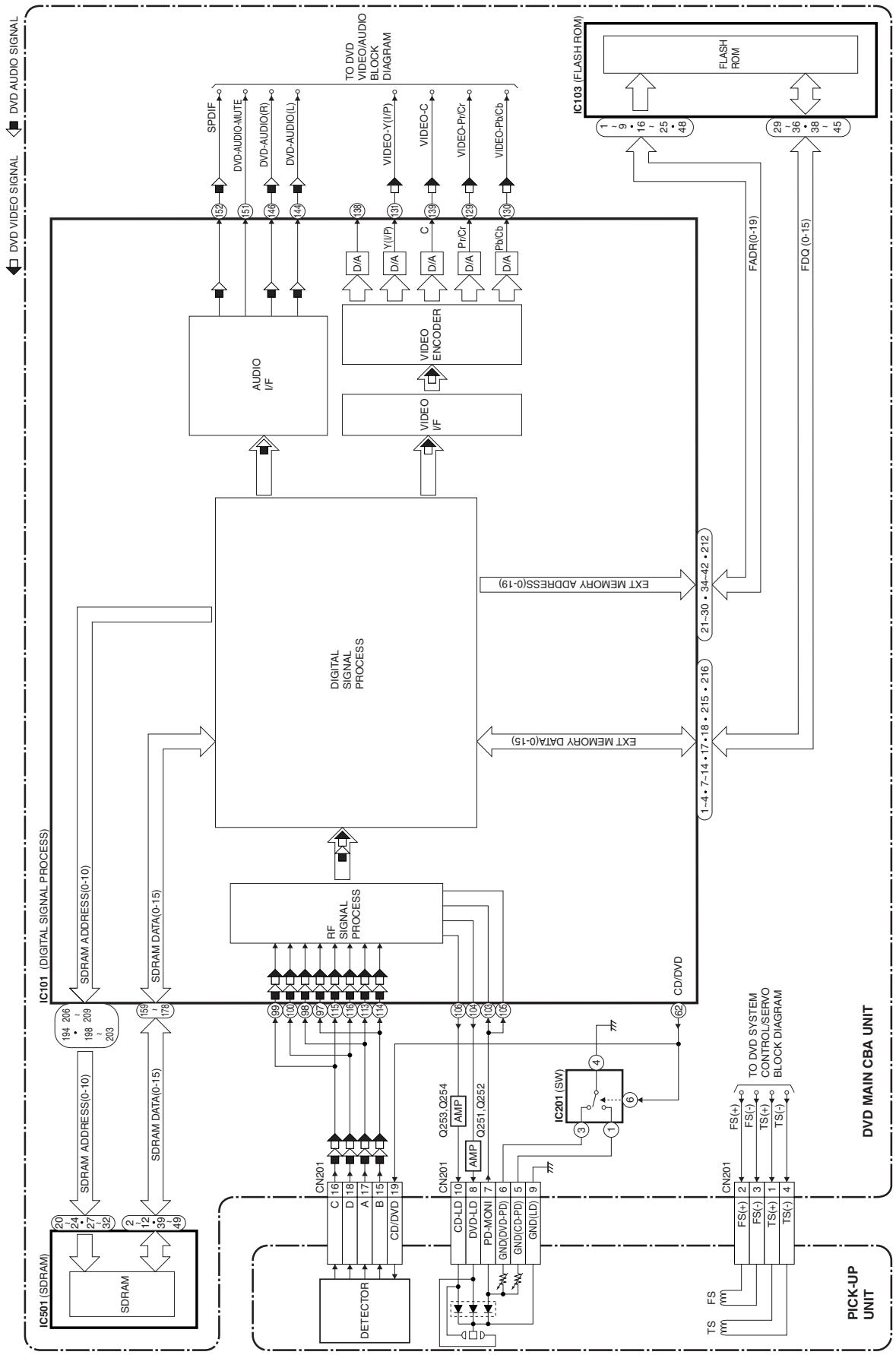
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

BLOCK DIAGRAMS <DVD SECTION>

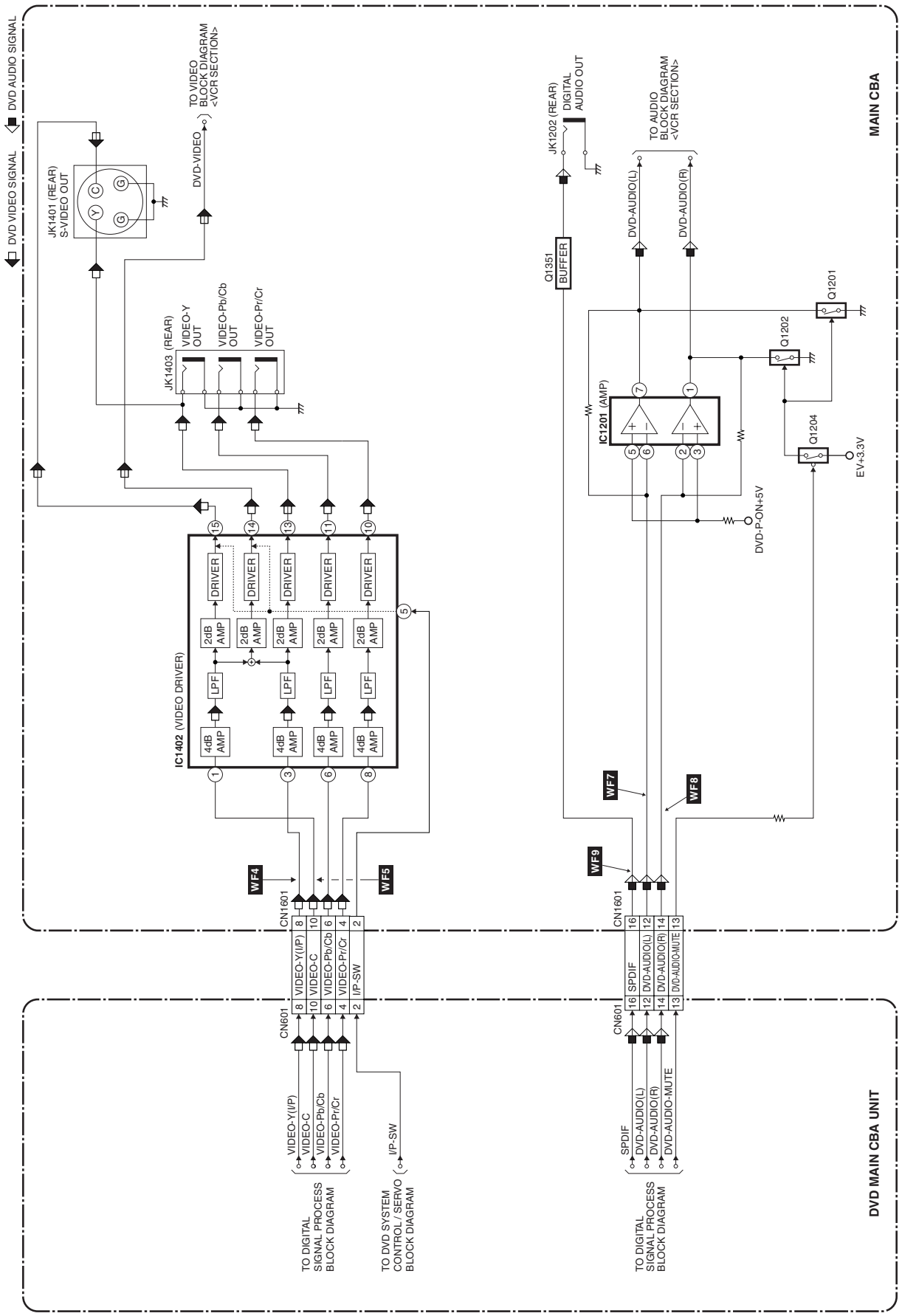
DVD System Control / Servo Block Diagram



Digital Signal Process Block Diagram



DVD Video / Audio Block Diagram



SCHEMATIC DIAGRAMS / CBA AND TEST POINTS

Standard Notes

WARNING

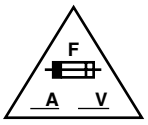
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "⚠" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K = 10^3$, $M = 10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P = 10^{-6}$ μF).
5. All voltages are DC voltages unless otherwise specified.

LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION:



FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

This symbol means fast operating fuse.
Ce symbole reprèsente un fusible à fusion rapide.

2. CAUTION:

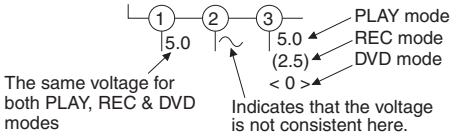
Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1002) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. Note:

1. Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Voltage indications on the schematics are as shown below:

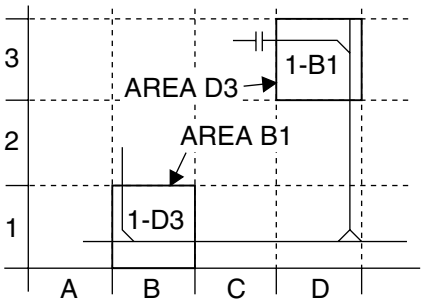
Unit: Volts



5. How to read converged lines

1-D3
- Distinction Area
- Line Number (1 to 3 digits)

Examples:
1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



6. Test Point Information

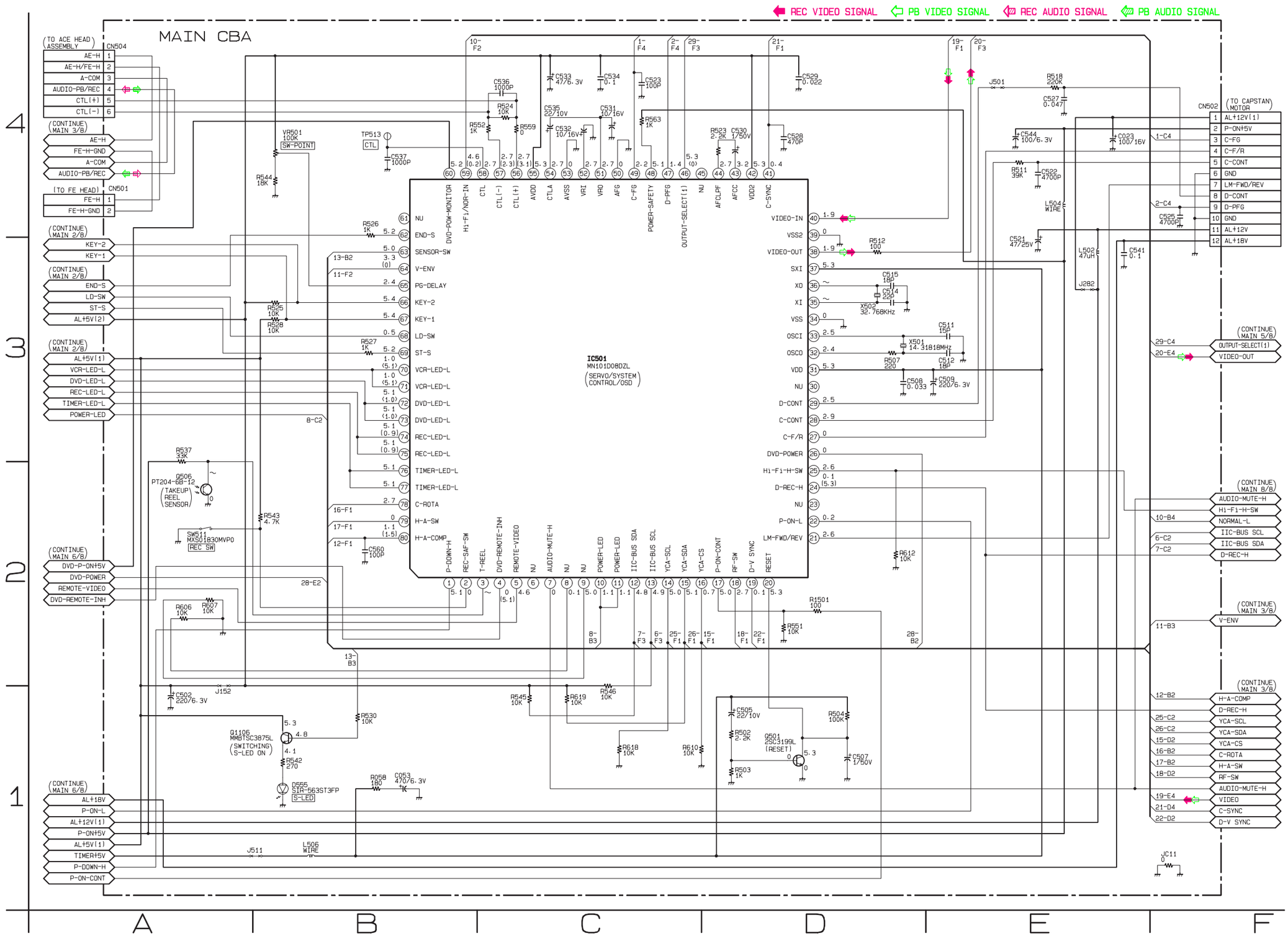
: Indicates a test point with a jumper wire across a hole in the PCB.

: Used to indicate a test point with a component lead on foil side.

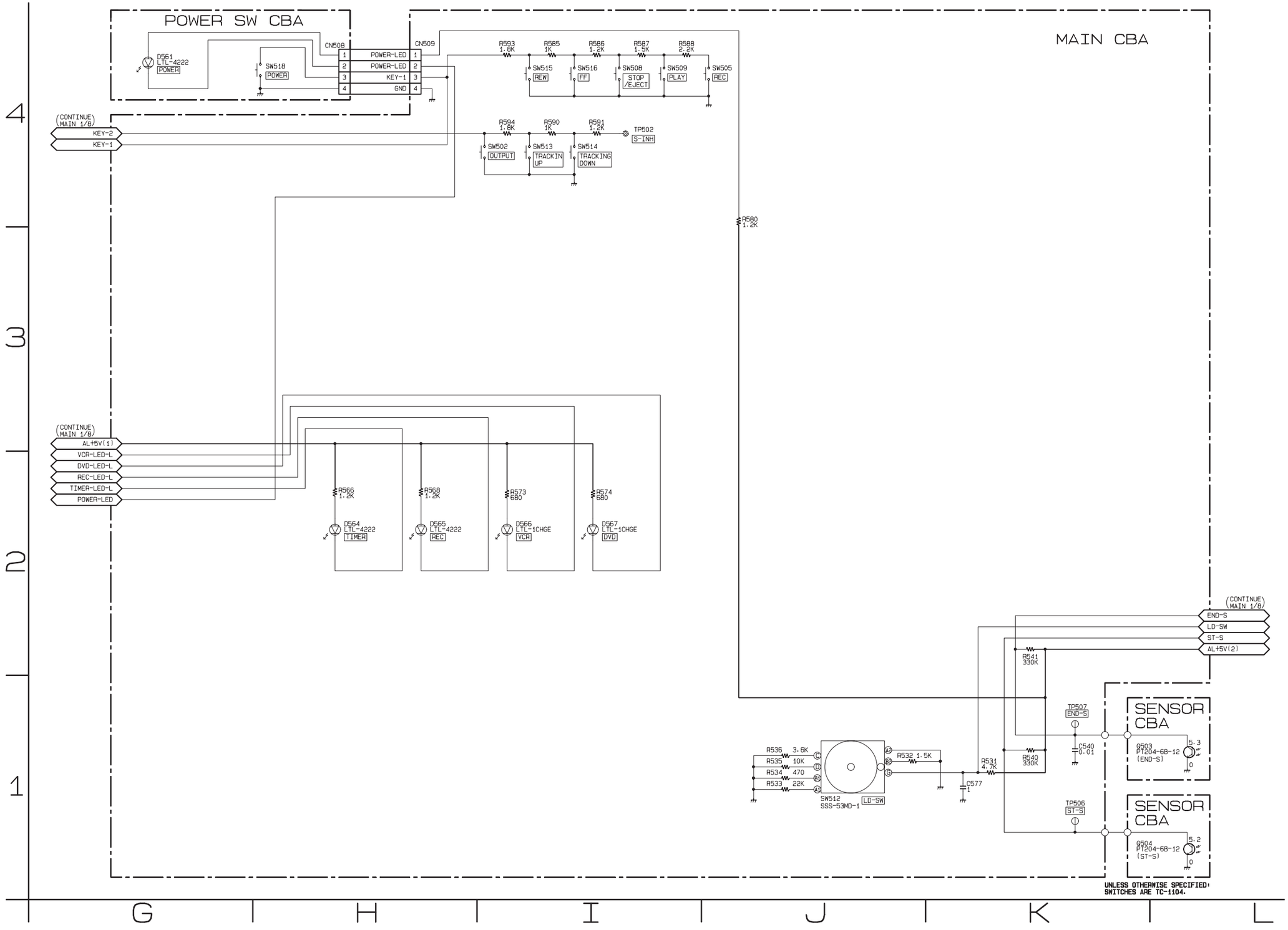
: Used to indicate a test point with no test pin.

: Used to indicate a test point with a test pin.

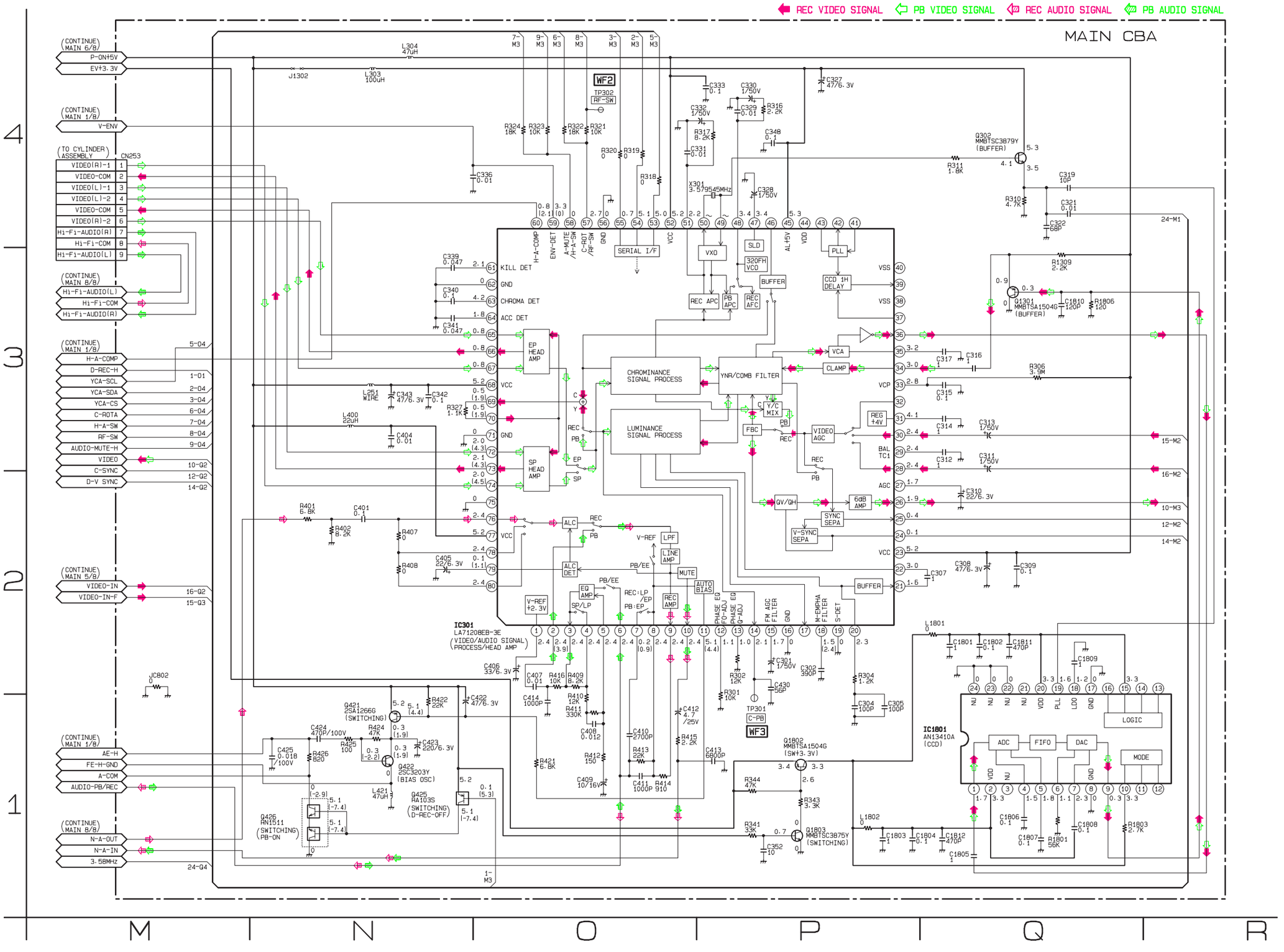
Main 1/8 Schematic Diagram < VCR Section >



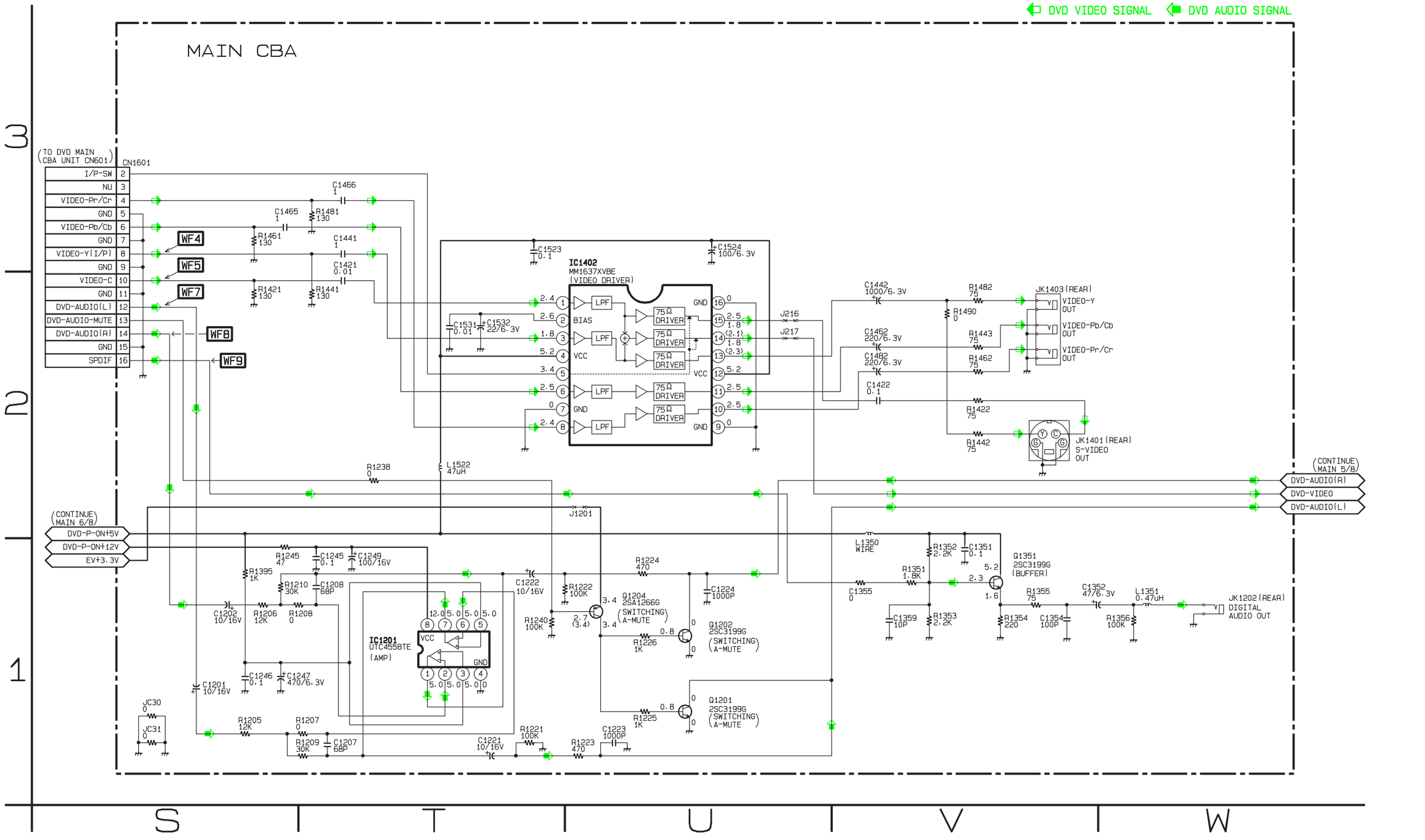
Main 2/8, Power SW & Sensor Schematic Diagram < VCR Section >



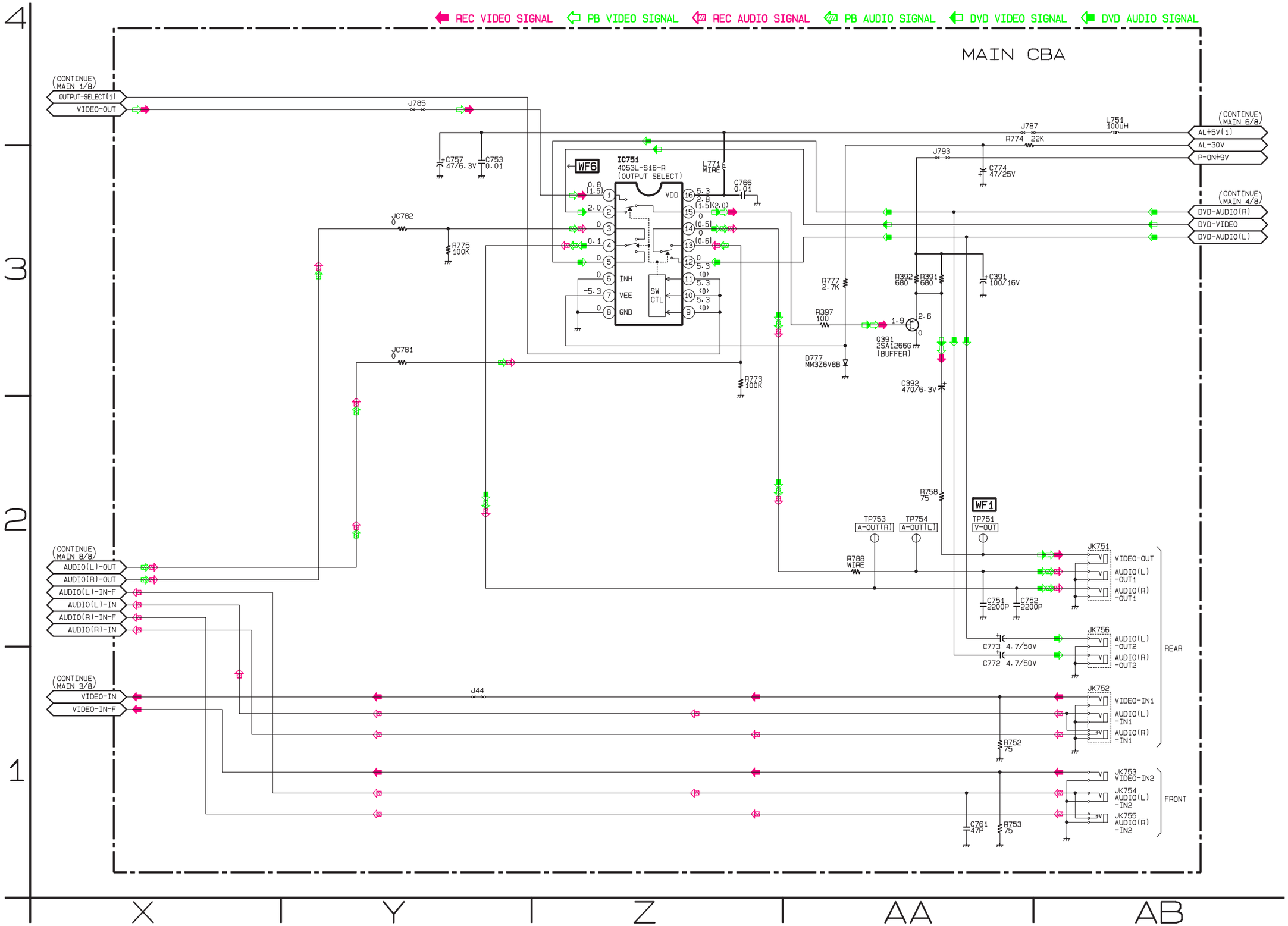
Main 3/8 Schematic Diagram < VCR Section >



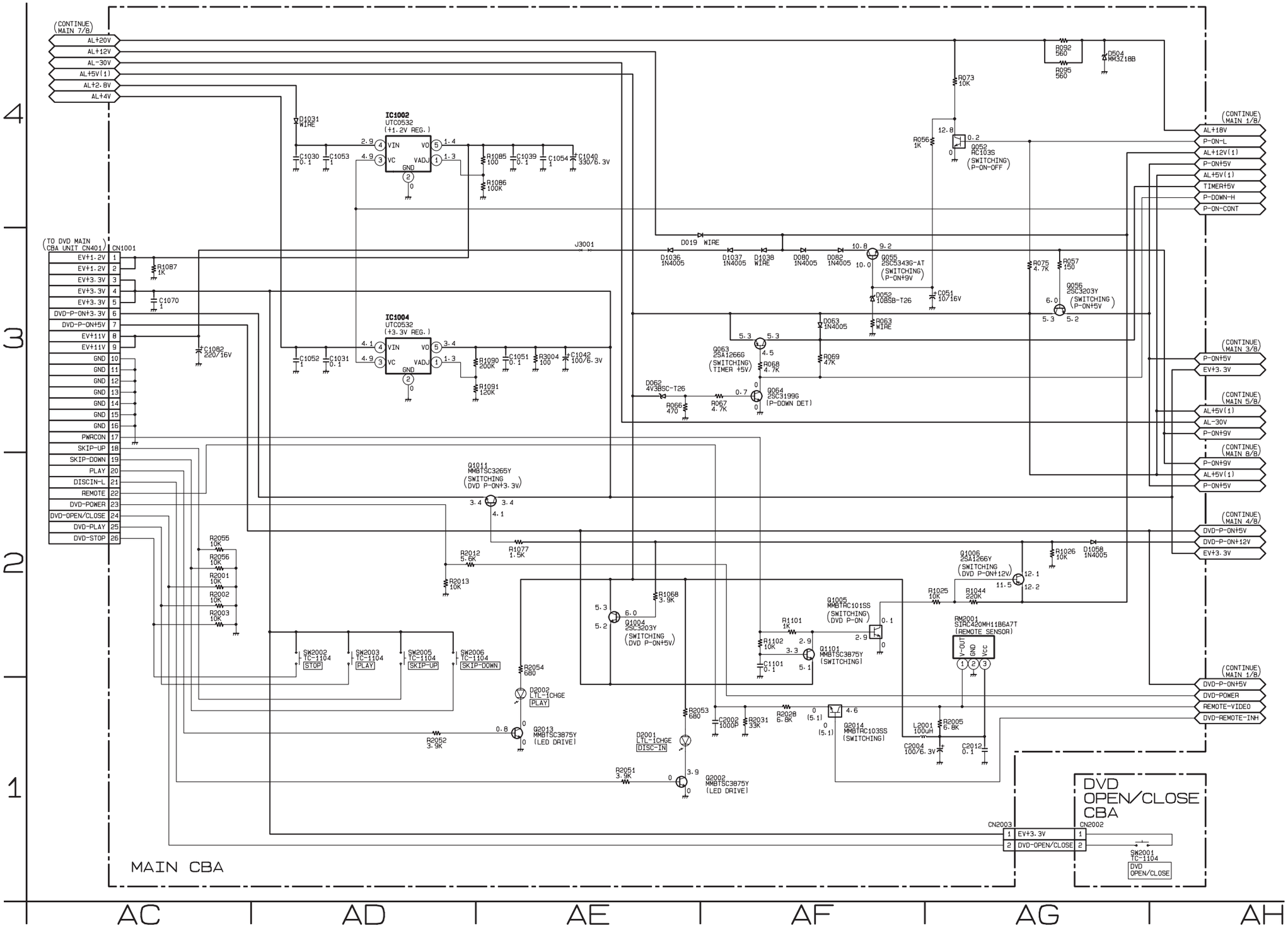
Main 4/8 Schematic Diagram < VCR Section >



Main 5/8 Schematic Diagram < VCR Section >



Main 6/8 & DVD Open/Close Schematic Diagram < VCR Section >

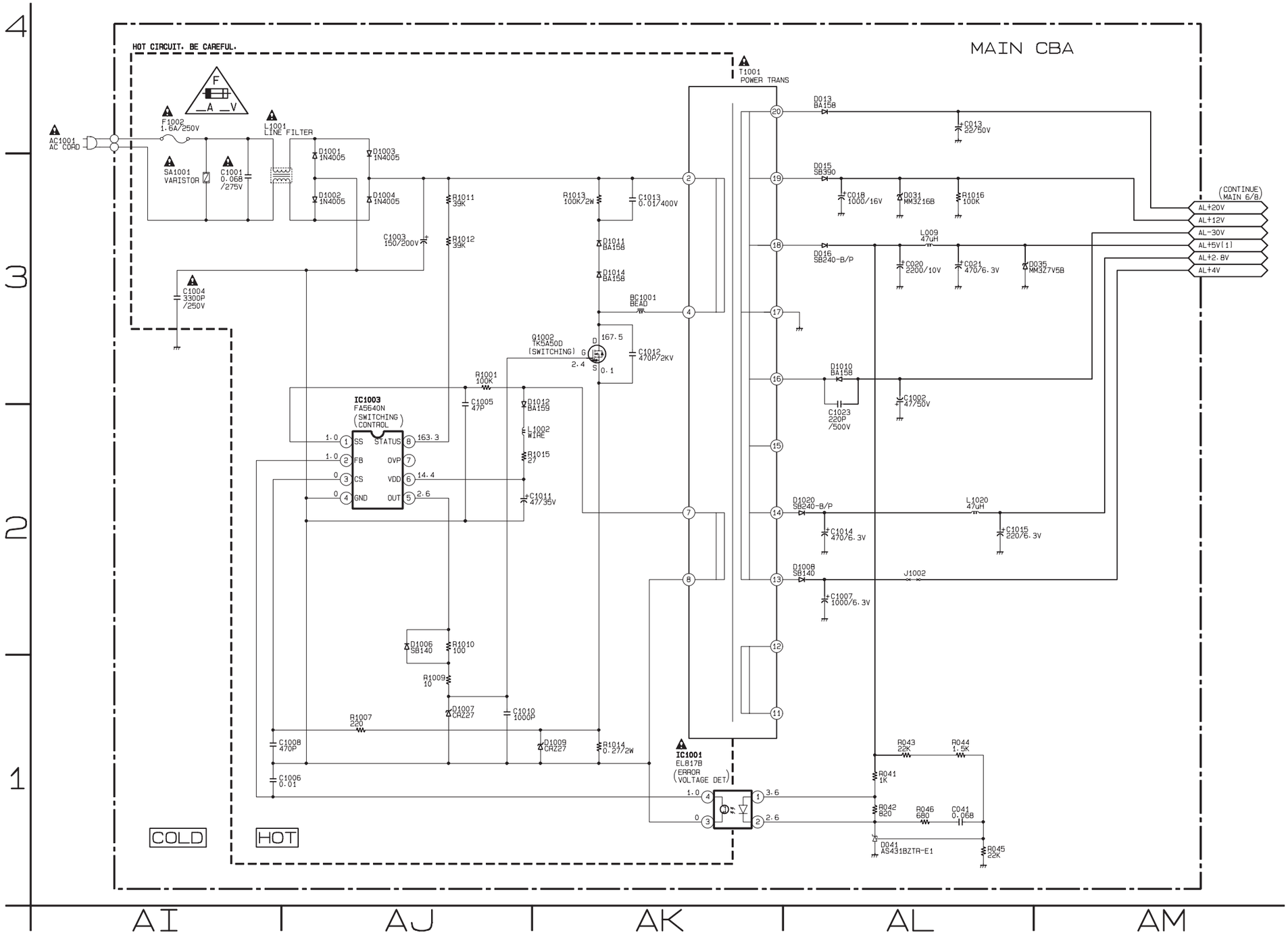


Main 7/8 Schematic Diagram < VCR Section >

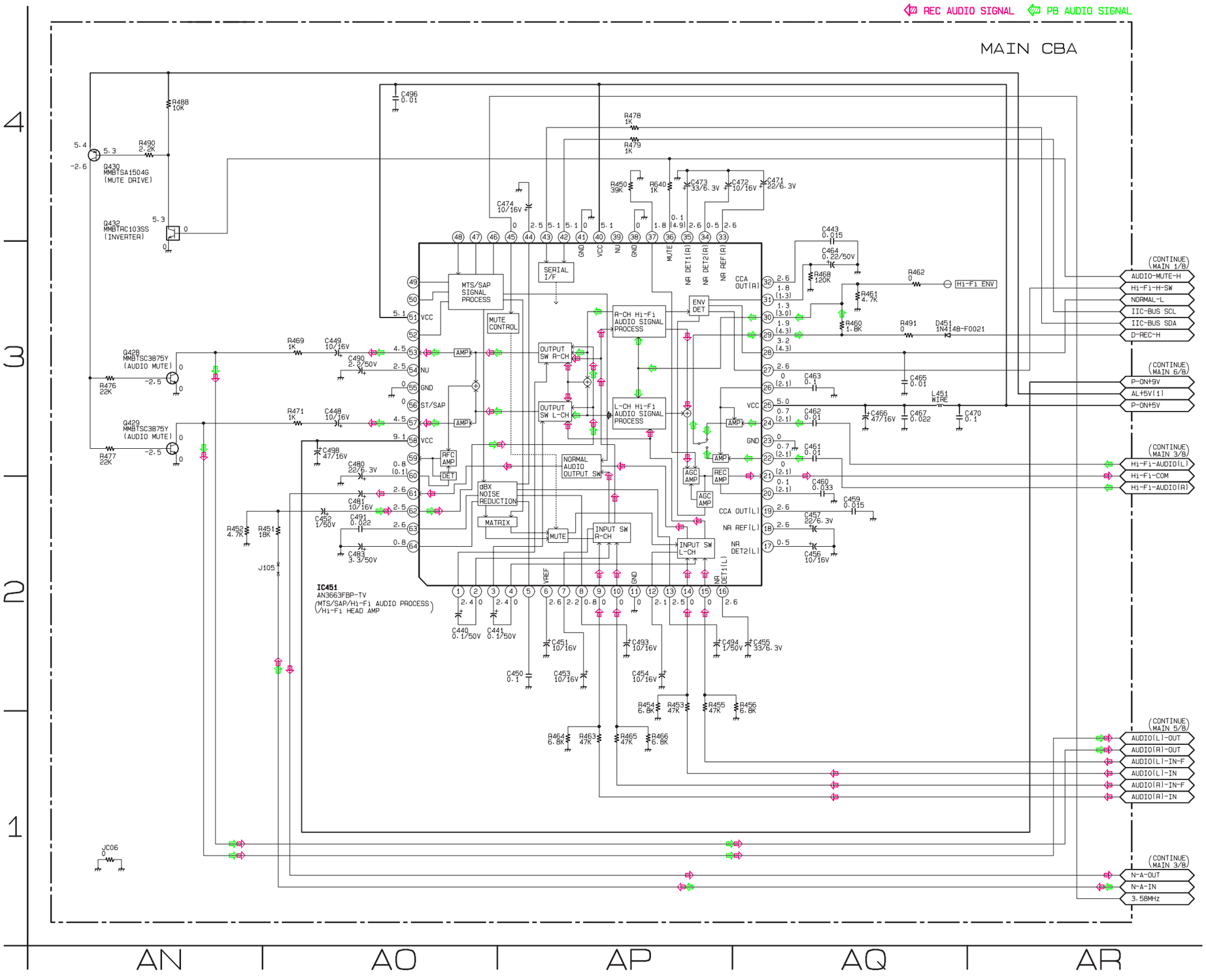
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1002) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

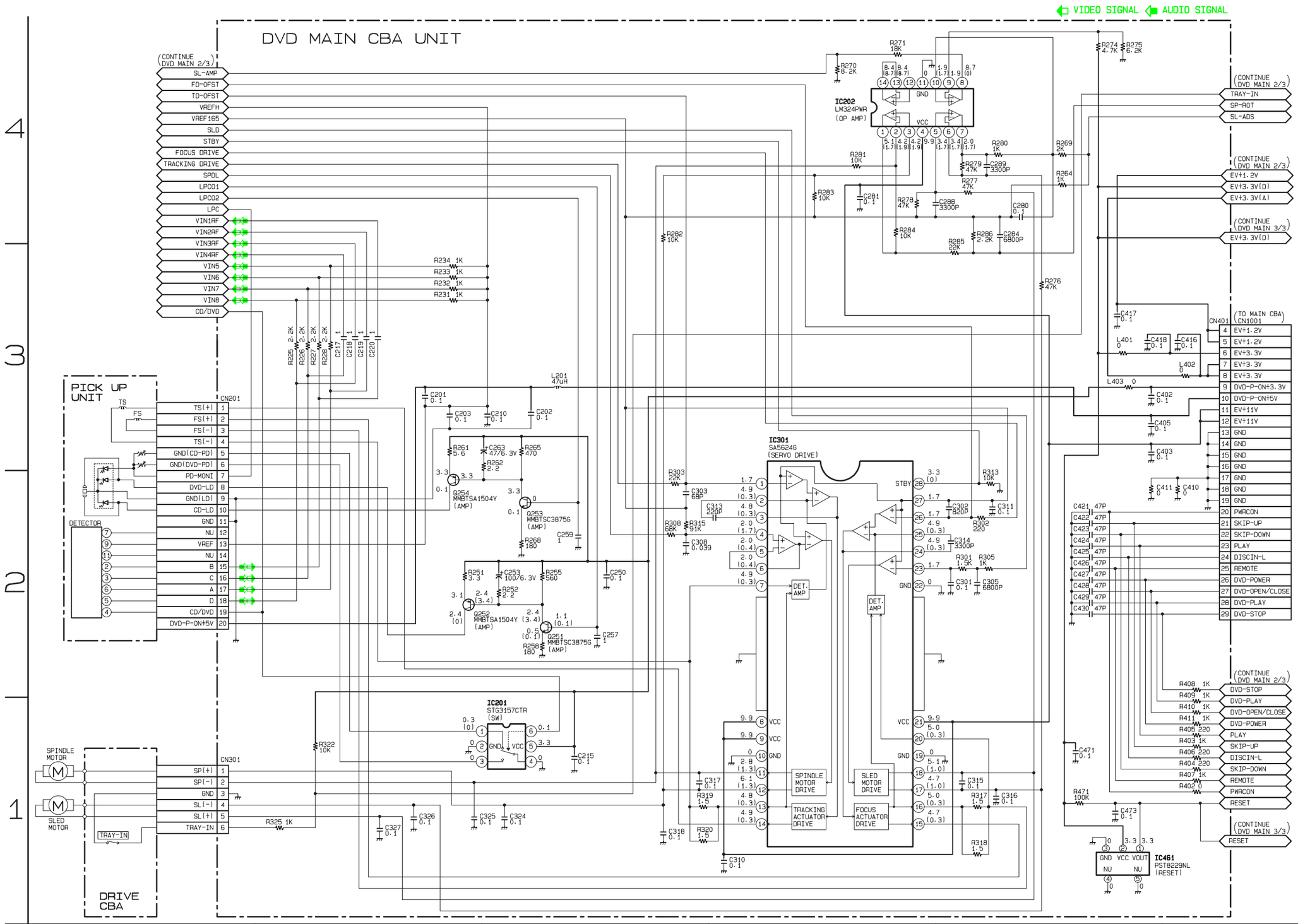
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



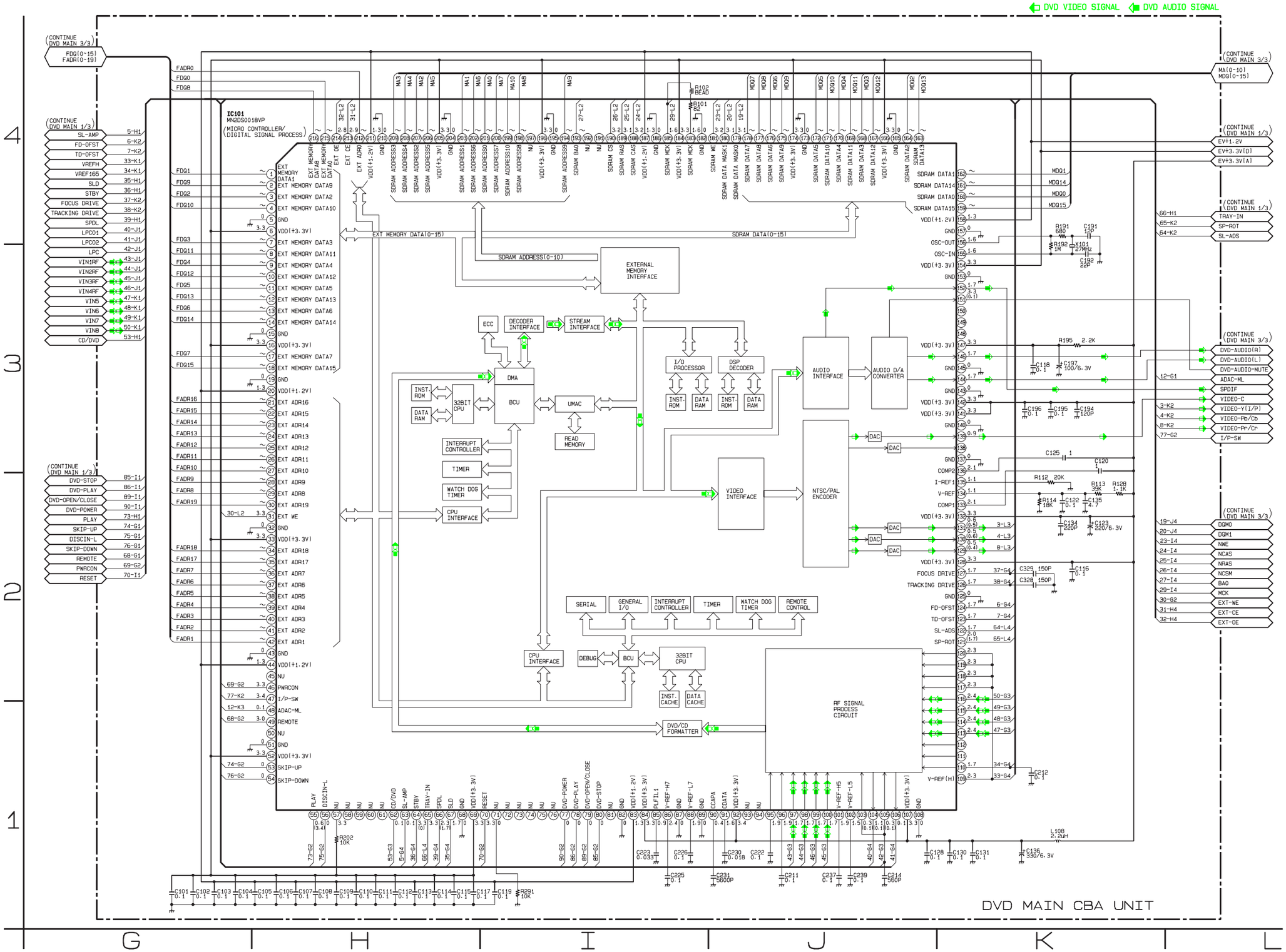
Main 8/8 Schematic Diagram < VCR Section >



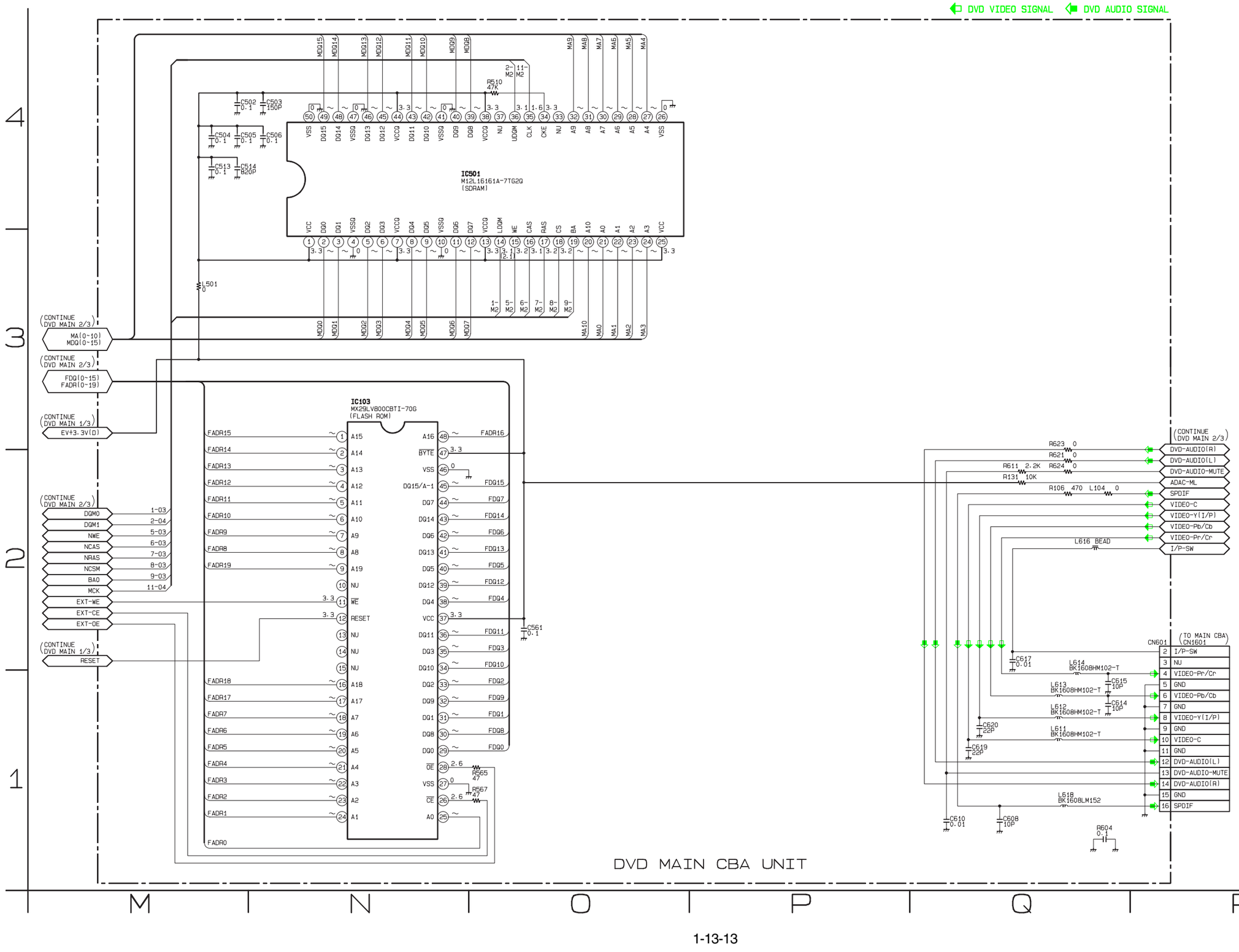
DVD Main 1/3 Schematic Diagram < DVD Section >



DVD Main 2/3 Schematic Diagram < DVD Section >



DVD Main 3/3 Schematic Diagram < DVD Section >



Main CBA, Power SW CBA, DVD Open/Close CBA Top View

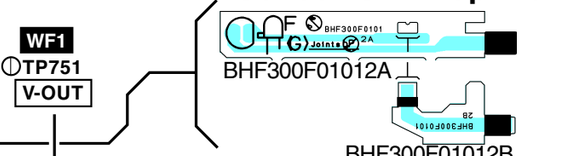
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1002) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

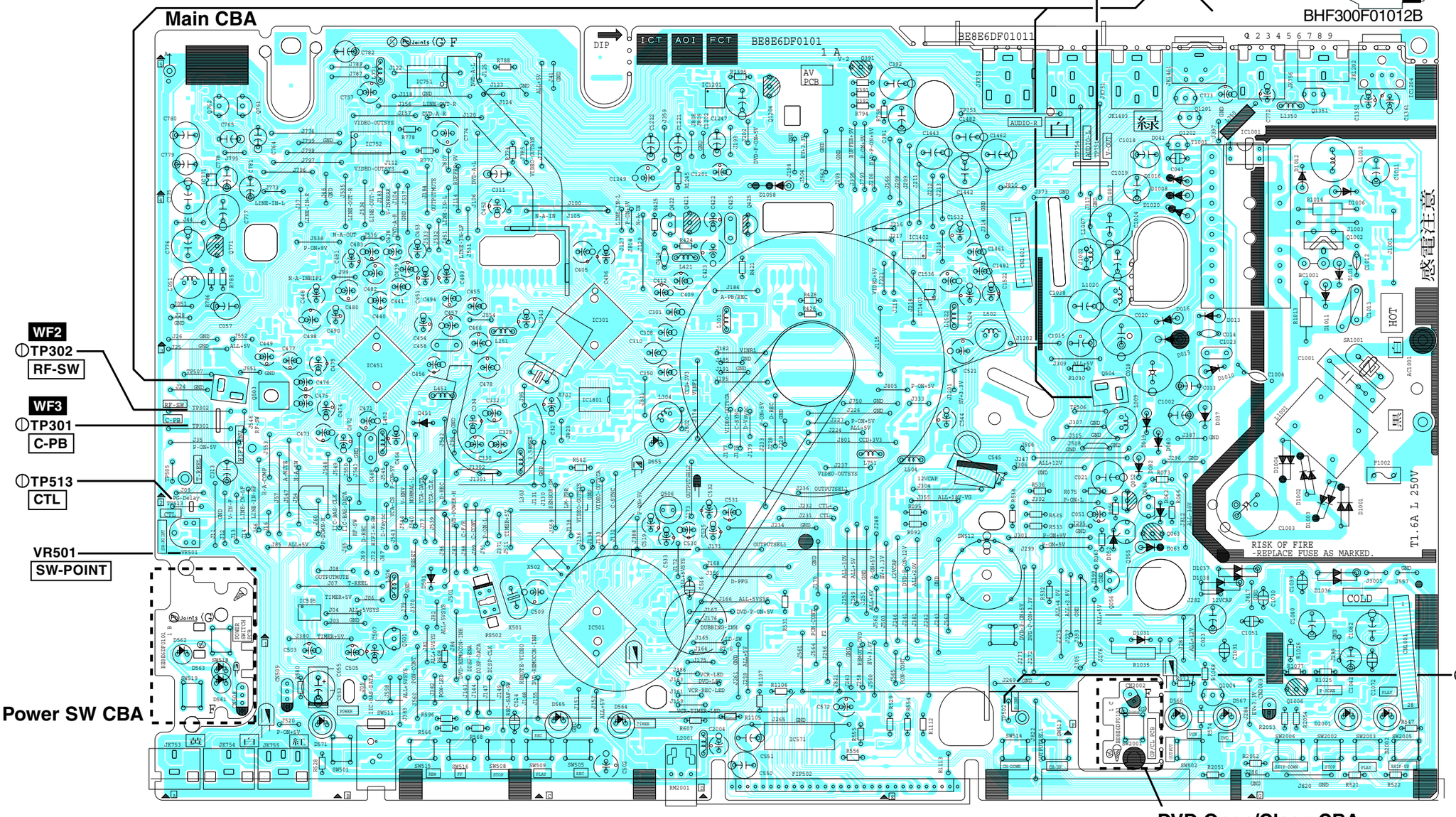
Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used when repairing. Also, in order to have the ability to increase the input slowly, when troubleshooting this type of power supply circuit, a variable isolation transformer is required.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

Sensor CBA Top View

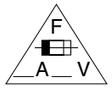


Main CBA



Main CBA, Power SW CBA, DVD Open/Close CBA Bottom View

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1002) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



CAUTION !
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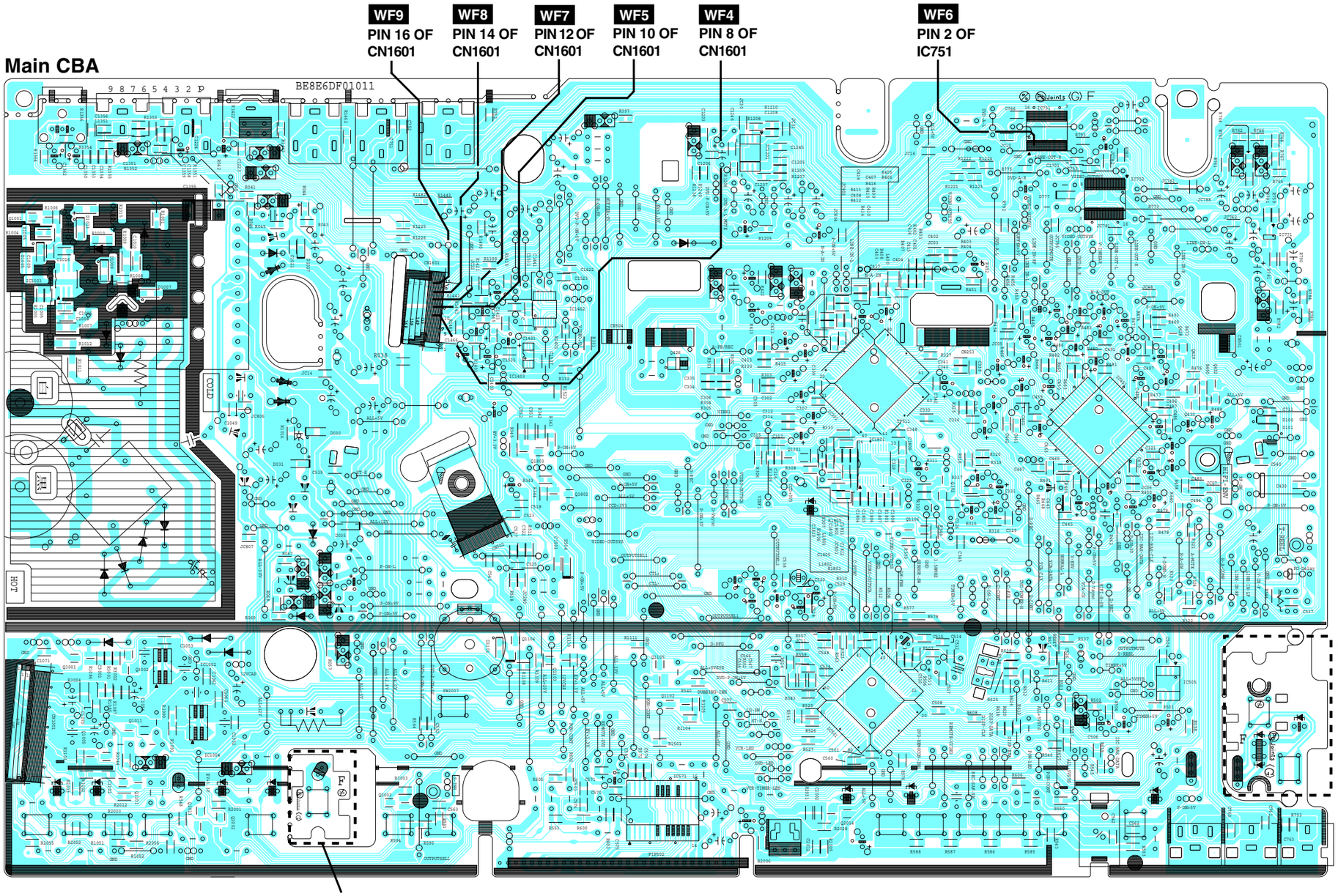
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes
d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used when repairing. Also, in order to have the ability to increase the input slowly, when troubleshooting this type of power supply circuit, a variable isolation transformer is required.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

Main CBA

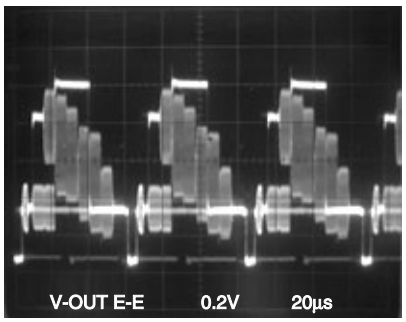


BE8E6DF01011

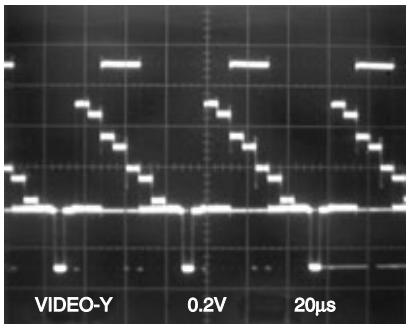
WAVEFORMS

NOTE:
Input
COLOR BAR SIGNAL (WITH 1KHz AUDIO SIGNAL)

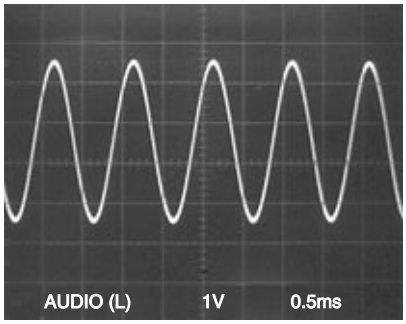
WF1 TP751



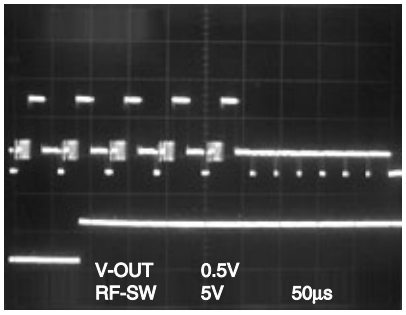
WF4 Pin 8 of CN1601



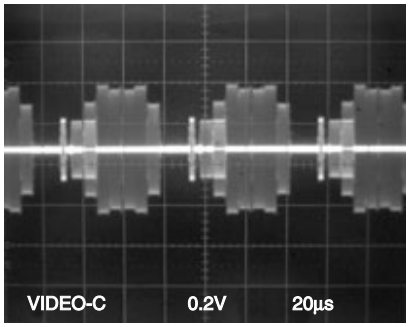
WF7 Pin 12 of CN1601



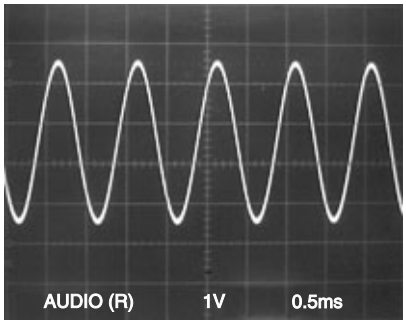
WF1 UPPER TP751
WF2 LOWER TP302



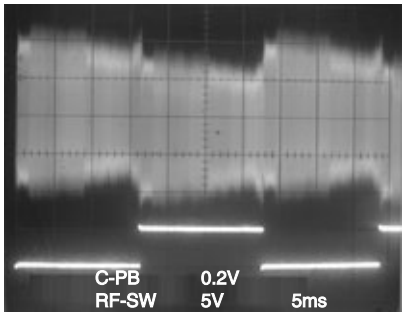
WF5 Pin 10 of CN1601



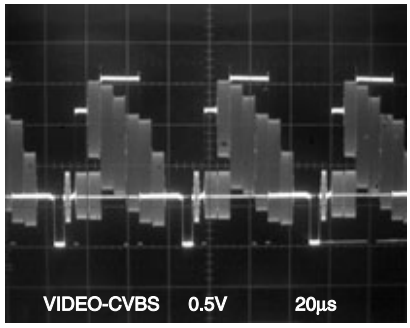
WF8 Pin 14 of CN1601



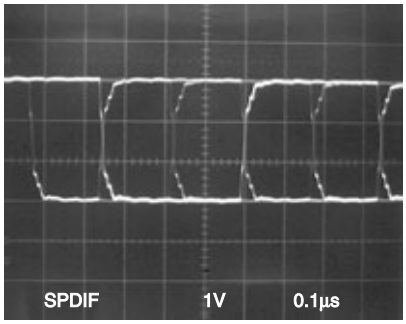
WF3 UPPER TP301
WF2 LOWER TP302



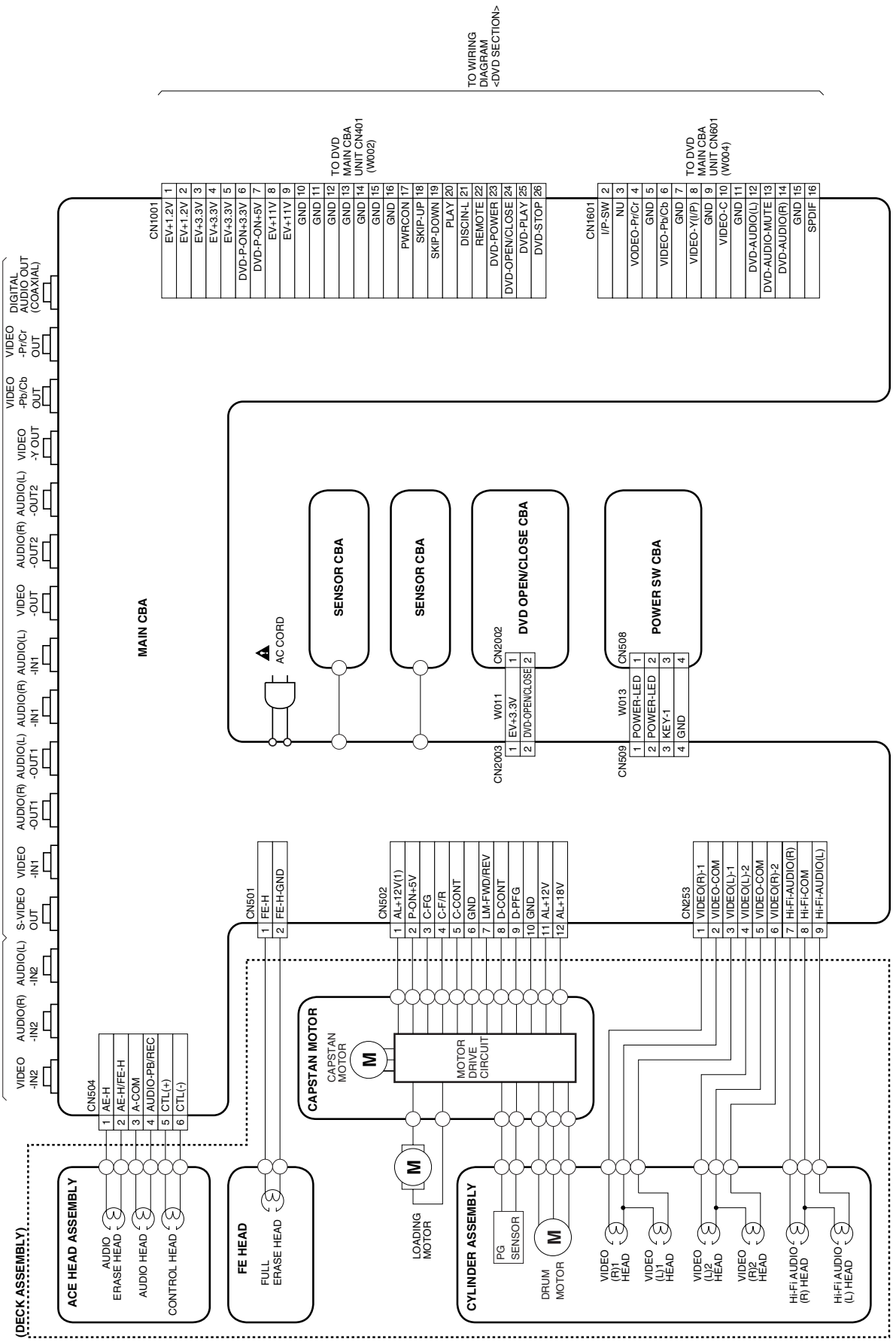
WF6 Pin 2 of IC751



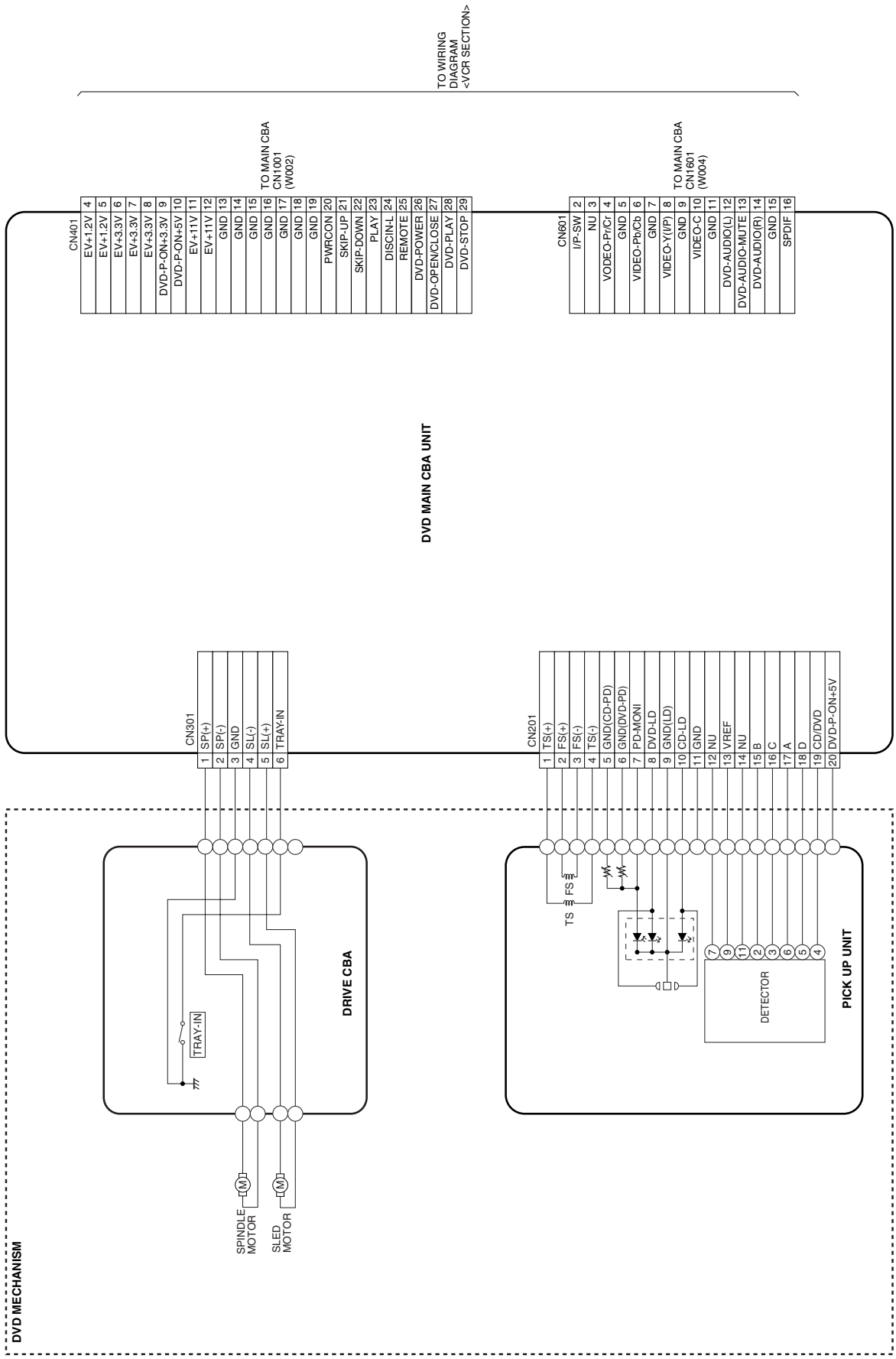
WF9 Pin 16 of CN1601



WIRING DIAGRAM < VCR SECTION >



WIRING DIAGRAM < DVD SECTION >



SYSTEM CONTROL TIMING CHARTS

< VCR Section >

Mode SW: LD-SW

LD-SW Position detection A/D Input voltage Limit (Calculated voltage)	Symbol
3.76 V ~ 4.50 V (4.12 V)	EJ
4.51 V ~ 5.00 V (5.00 V)	CL
0.00 V ~ 0.25 V (0.00 V)	SB
1.06 V ~ 1.50 V (1.21 V)	TL
0.66 V ~ 1.05 V (0.91 V)	FB
1.99 V ~ 2.60 V (2.17 V)	SF
1.51 V ~ 1.98 V (1.80 V)	SM
3.20 V ~ 3.75 V (3.40 V)	AU
0.26 V ~ 0.65 V (0.44 V)	AL
4.51 V ~ 5.00 V (5.00 V)	SS
2.61 V ~ 3.19 V (2.97 V)	RS

Note:

Note: EJ ⟶ RS: Loading FWD (LM-FWD / REV “H”)
RS ⟶ EJ: Loading REV (LM-FWD / REV “L”)
Stop (A) = Loading
Stop (B) = Unloading

Note:

Symbol	Loading Status
EJ	Eject
CL	Eject ~ REW Reel
SB	REW Reel ~ Stop (B)
TL	Stop (B) ~ Brake Cancel
FB	Brake Cancel ~ FF / REW
SF	FF / REW ~ Stop (M), (FF / REW)
SM	Stop (M), (FF / REW) ~ Stop (A)
AU	Stop (A) ~ Play / REC
AL	Play / REC ~ Still / Slow
SS	Still / Slow ~ RS (REW Search)
RS	RS (REW Search)

Still/Slow Control Frame Advance Timing Chart

1) SP Mode

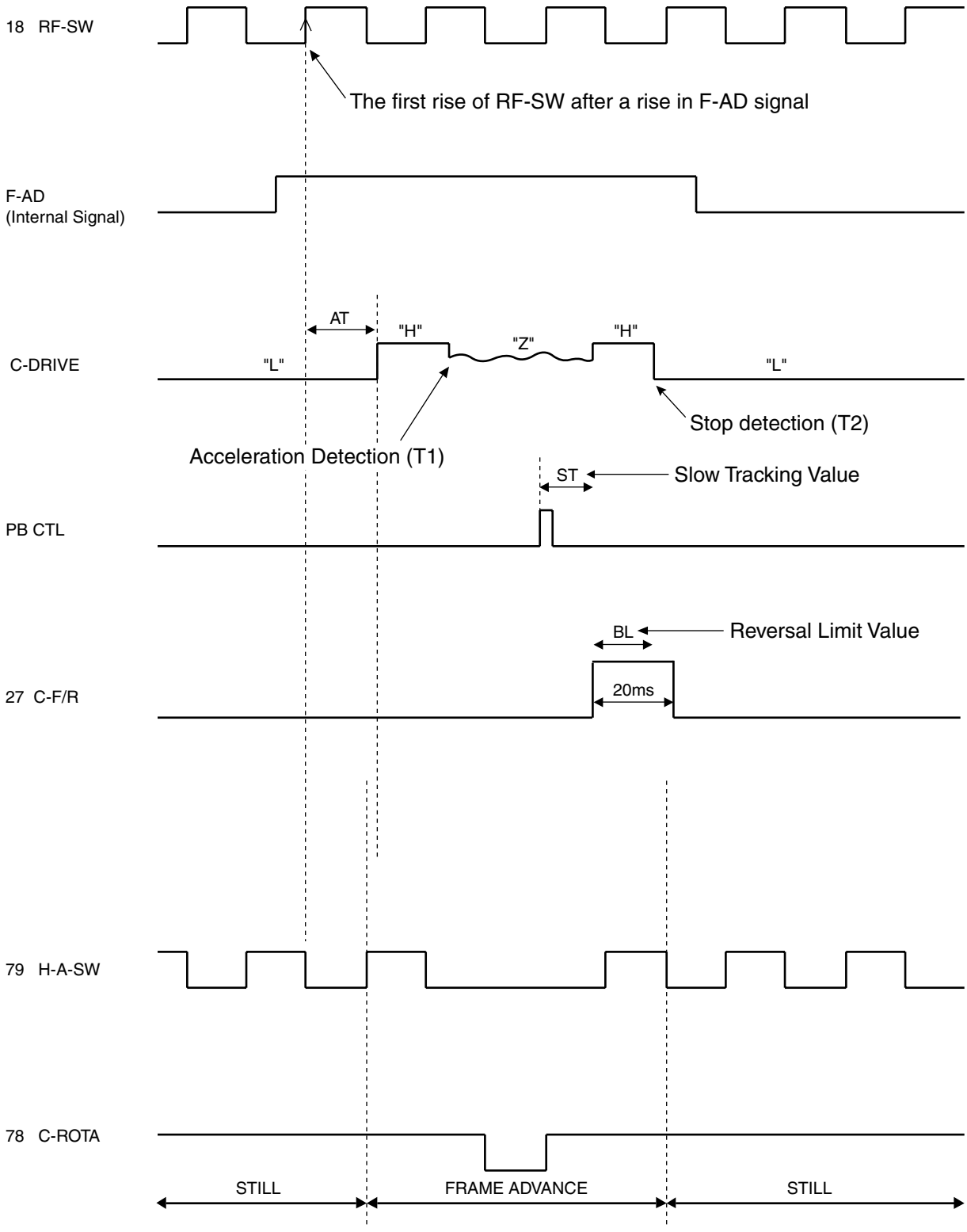


Fig. 1

2) LP/SLP Mode

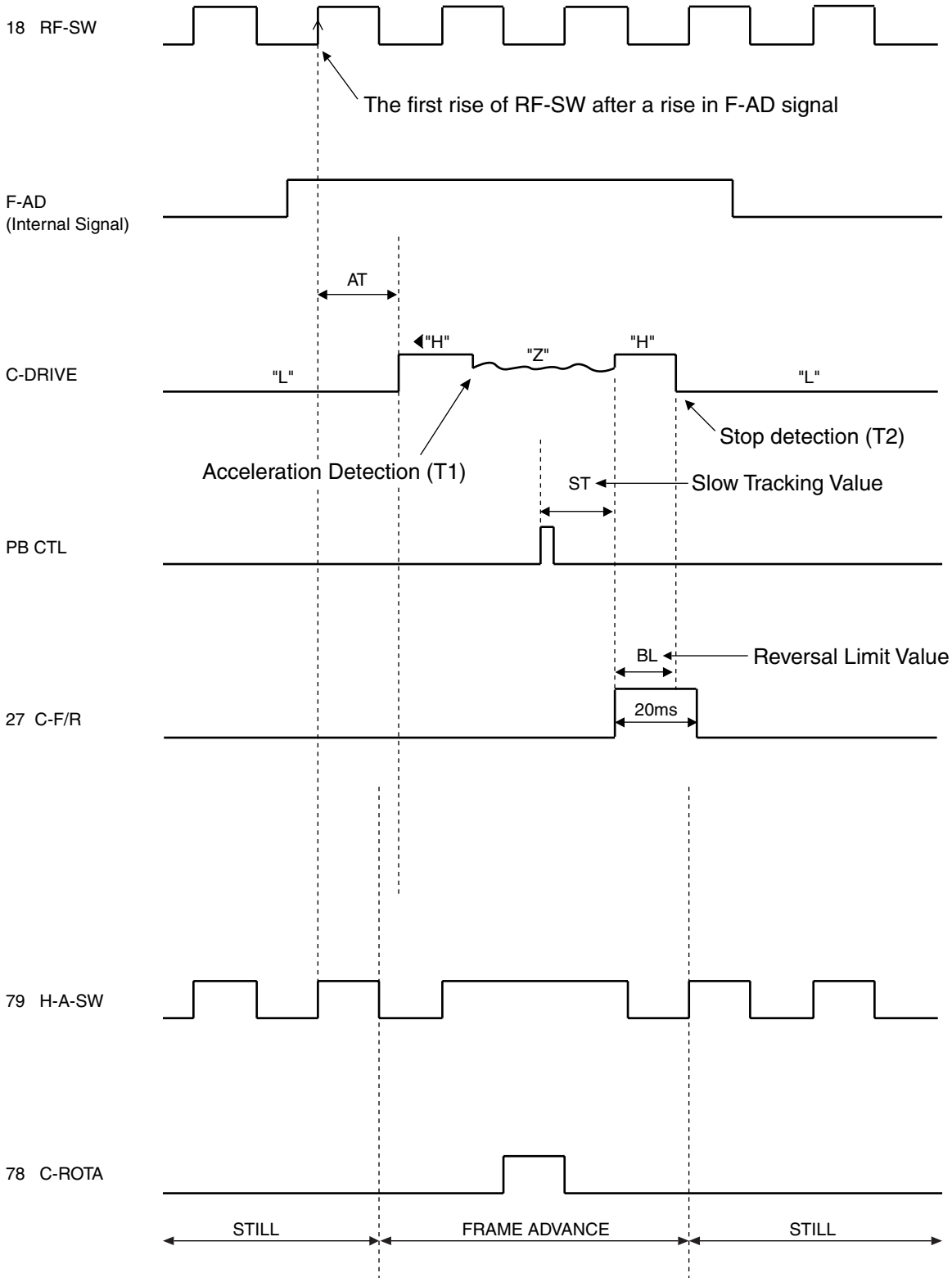


Fig. 2

1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL -> PLAY -> STOP(A)

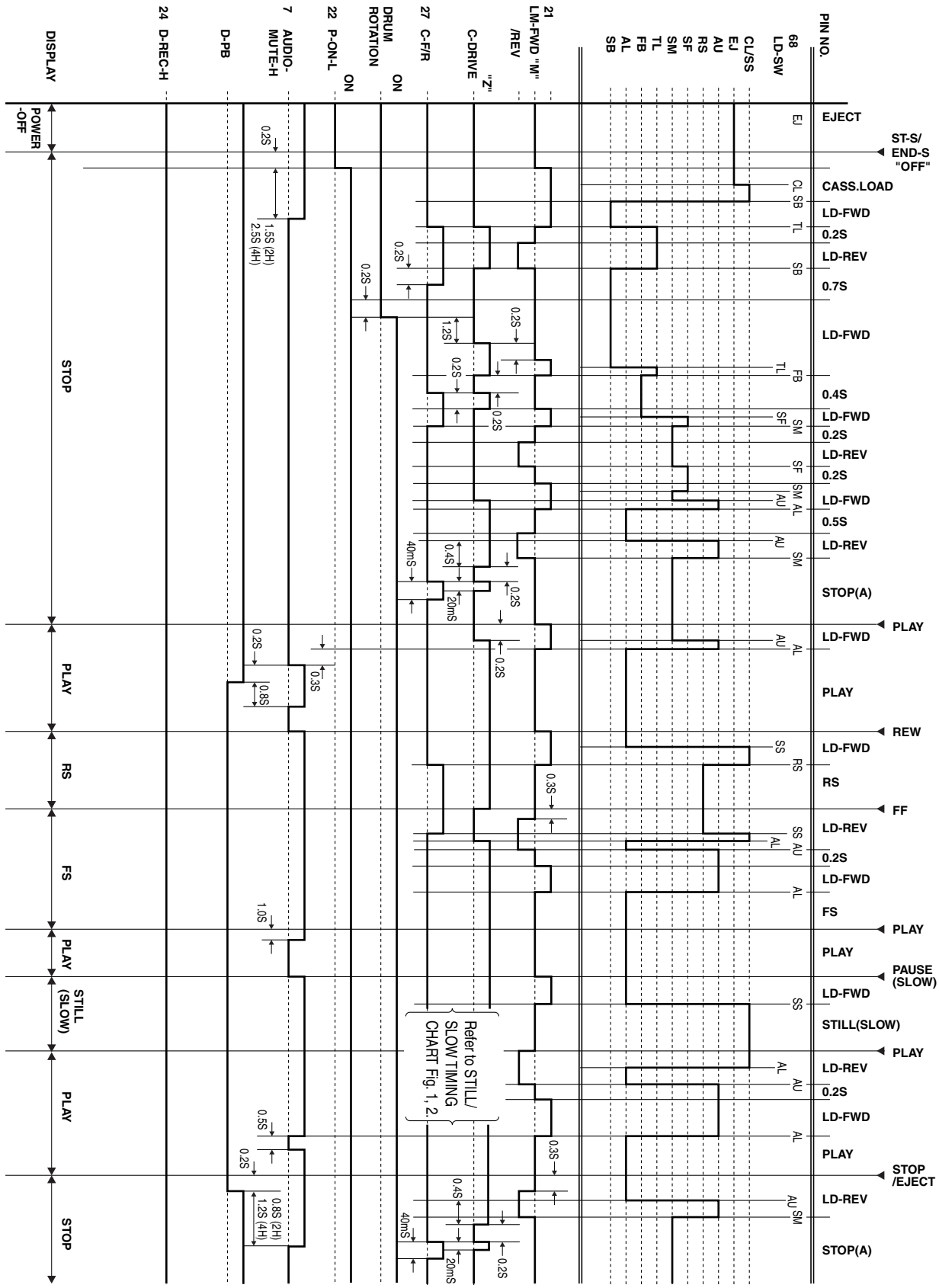


Fig. 3

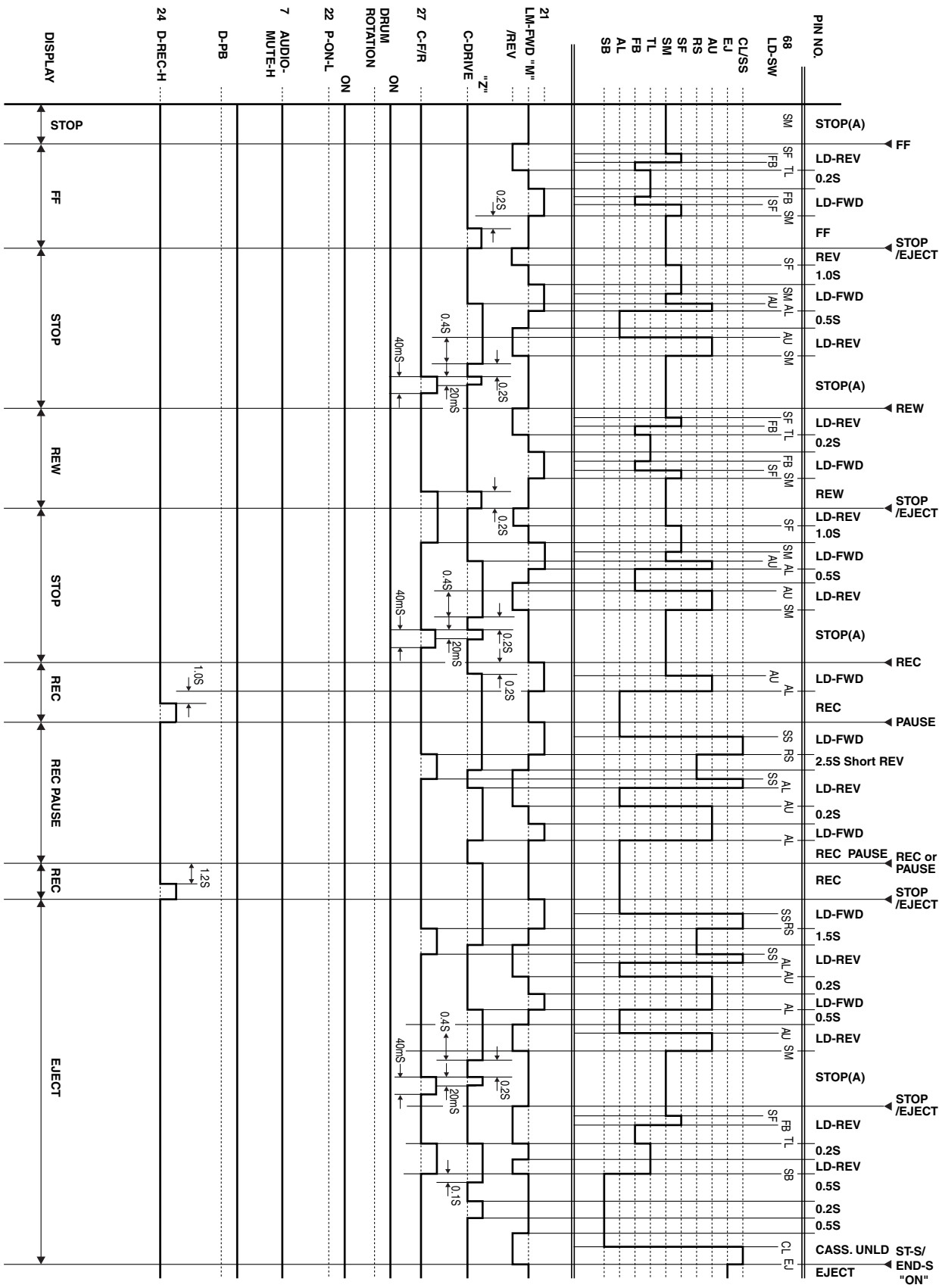
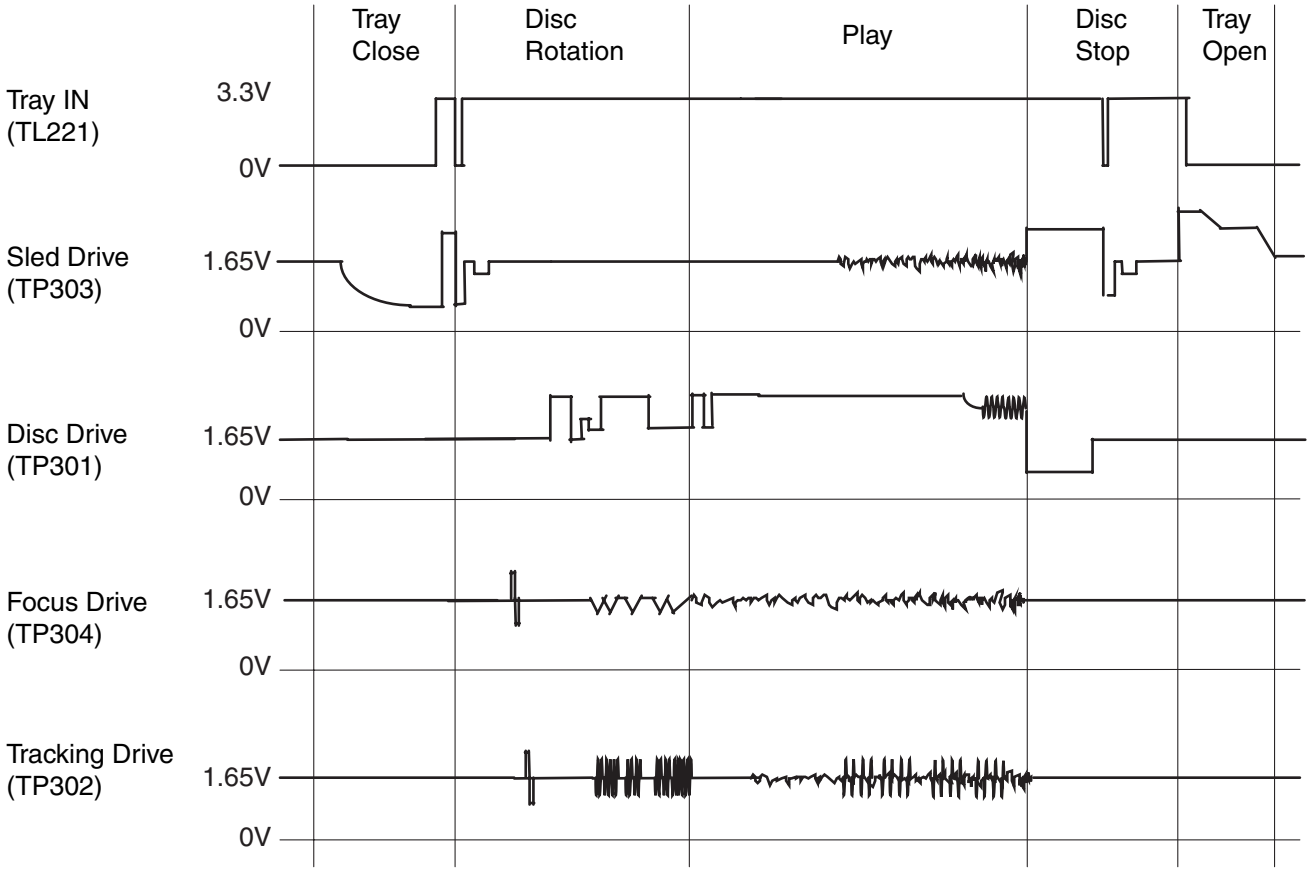

2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT
PIN NO.
68 LD-SW
CL/SS
EJ
AU
RS
SF
SM
TL
FB
AL
SB
21 LM-FWD /REV
"M"
"Z" C-DRIVE
27 C-F/R
DRUM ROTATION
22 P-ON-L
7 AUDIO-MUTE-H
D-PB
24 D-REC-H
DISPLAY
STOP
FF
STOP
REW
STOP
REC
REC PAUSE
REC
EJECT
STOP(A)
FF
LD-REV
0.2S
LD-FWD
FF
STOP /EJECT
REV
1.0S
LD-FWD
0.5S
LD-REV
STOP(A)
REW
LD-REV
0.2S
LD-FWD
REW
STOP /EJECT
LD-REV
1.0S
LD-FWD
0.5S
LD-REV
STOP(A)
REC
LD-FWD
REC
PAUSE
LD-FWD
2.5S Short REV
LD-REV
0.2S
LD-FWD
REC PAUSE
REC or PAUSE
REC
STOP /EJECT
LD-FWD
1.5S
LD-REV
0.2S
LD-FWD
0.5S
LD-REV
STOP(A)
STOP /EJECT
LD-REV
0.2S
LD-REV
0.5S
0.2S
0.5S
CASS. UNLD
EJECT
ST-S/ END-S "ON"
0.2S
0.4S
40mS
20mS
0.1S
1.0S
1.2S

Fig. 4

< DVD Section >

Tray Close ~ Play / Play ~ Tray Open



IC PIN FUNCTION DESCRIPTIONS

< VCR Section >

IC501 (SERVO/SYSTEM CONTROL/OSD)

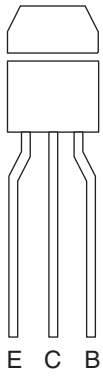
"H" ≥ 4.5 V, "L" ≤ 1.0 V

Pin No.	IN/ OUT	Signal Name	Function
1	IN	P-DOWN -H	Power Voltage Down Detector Signal
2	IN	REC-SAF-SW	Recording Safety SW Detect (With Record tab = "L" / With out Record tab = "H")
3	IN	T-REEL	Take Up Reel Rotation Signal
4	OUT	DVD-REMOTE-INH	DVD Remote Inhibition signal
5	IN	REMOTE-VIDEO	Remote Control Sensor
6	-	NU	Not Used
7	OUT	AUDIO-MUTE-H	Audio Mute Control Signal (Mute = "H")
8	-	NU	Not Used
9	-	NU	Not Used
10	OUT	POWER-LED	POWER LED Signal Output
11	OUT	POWER-LED	POWER LED Signal Output
12	IN/ OUT	IIC-BUS SDA	IIC BUS Control Data
13	OUT	IIC-BUS SCL	IIC BUS Control Clock
14	OUT	YCA-SCL	YCA IC Control Clock
15	OUT	YCA-SDA	YCA IC Control Data
16	OUT	YCA-CS	YCA IC Control Chip Select
17	OUT	P-ON-CONT	Power Regulator Control Signal
18	OUT	RF-SW	Video Head Switching Pulse
19	OUT	D-V SYNC	Dummy V-sync Output
20	IN	RESET	System Reset Signal (Reset = "L")
21	OUT	LM-FWD/ REV	Loading Motor FWD/ REV Output
22	OUT	P-ON-L	Power On Signal to Low
23	-	NU	Not Used
24	OUT	D-REC-H	Delayed Record Signal
25	OUT	Hi-Fi-H-SW	HiFi Audio Head Switching Pulse
26	OUT	DVD-POWER	DVD Power Control Signal
27	OUT	C-F/R	Capstan Motor FWD/REV Control Signal (FWD = "L" / REV = "H")
28	OUT	C-CONT	Capstan Motor Control Signal
29	OUT	D-CONT	Drum Motor Control Signal
30	-	NU	Not Used
31	-	VDD	VDD
32	OUT	OSCO	Main Clock Output 14.31818MHz
33	IN	OSCI	Main Clock Input 14.31818MHz
34	-	VSS	VSS
35	IN	XI	Sub Clock Input 32.768 MHz
36	OUT	XO	Sub Clock Output 32.768 MHz
37	IN	SXI	Operation Mode Selecting Input Signal
38	OUT	VIDEO-OUT	Composite Video Signal Output
39	-	VSS2	Vss2
40	IN	VIDEO-IN	Composite Video Signal Input
41	IN	C-SYNC	Composite Synchronized Pulse
42	-	VDD2	VDD2
43	IN	AFCC	Low Path Filter Input Signal For AFC
44	OUT	AFCLPF	Low Path Filter Output Signal For AFC
45	-	NU	Not Used
46	OUT	OUTPUT-SELECT(1)	Output Select
47	IN	D-PFG	Drum PG/FG Input Signal
48	IN	POWER-SAFETY	P-ON Power Supply Abnormal Detection Input
49	IN	C-FG	Capstan Motor Rotation Detection Pulse
50	-	AFG	GND
51	OUT	VRO	Servo Standard Voltage Output
52	IN	VRI	Servo Standard Voltage Input
53	-	AVSS	AVSS
54	IN	CTLA	CTL Amp. AC GND
55	-	AVDD	AVDD

Pin No.	IN/ OUT	Signal Name	Function
56	IN/ OUT	CTL (+)	Playback/Record Control Signal (+)
57	IN/ OUT	CTL (-)	Playback/Record Control Signal (-)
58	OUT	CTL	Amp. Output Control Signal for Test Point
59	IN	Hi-Fi/ NOR-IN	Audio Mode Input (HiFi = “L” / Normal = “H”)
60	IN	DVD-POW-MONITOR	DVD Power Monitor Signal (P-off = “L”, P-on = “H”)
61	-	NU	Not Used
62	IN	END-S	Tape End Position Detect Signal
63	OUT	SENSOR-SW	Sensor LED Control Signal
64	IN	V-ENV	Video Envelope Comparator Signal
65	IN	PG-DELAY	Video Head Switching Pulse Signal Adjusted Voltage
66	IN	KEY-2	A/D Key Data Signal 2
67	IN	KEY-1	A/D Key Data Signal 1
68	IN	LD-SW	Deck Mode Position Detector Signal
69	IN	ST-S	Tape Start Position Detector Signal
70	OUT	VCR-LED-L	VCR Mode LED Signal Output
71	OUT	VCR-LED-L	VCR Mode LED Signal Output
72	OUT	DVD-LED-L	DVD Mode LED Signal Output
73	OUT	DVD-LED-L	DVD Mode LED Signal Output
74	OUT	REC-LED-L	REC Mode LED Signal Output
75	OUT	REC-LED-L	REC Mode LED Signal Output
76	OUT	TIMER-LED-L	TIMER Mode LED Signal Output
77	OUT	TIMER-LED-L	TIMER Mode LED Signal Output
78	OUT	C-ROTA	Color Phase Rotary Changeover Signal
79	OUT	H-A-SW	Video Head Amp Switching Pulse
80	IN	H-A-COMP	Head Amp Comparator Signal

LEAD IDENTIFICATIONS

2SC3199(G,L)



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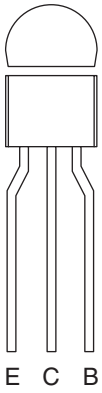
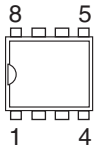
RA103S



UTC4558TE



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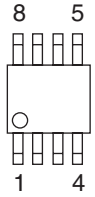
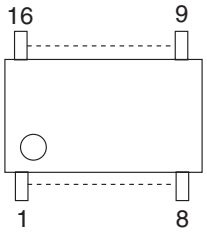
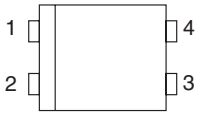


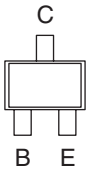
MM1637XVBE
4053L-S16-R



EL817B



1: Anode
2: Cathode
3: Emitter
4: Collector



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MMBTRC103SS
MMBTSC3265Y
MMBTSC3875L
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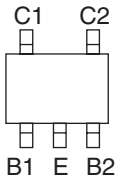
MMBTSC3879Y
RC103S

RN1511(TE85R.F)



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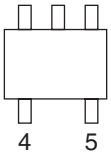
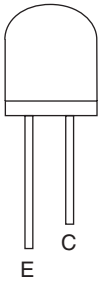


1: VREF
2: GND
3: VC
4: VIN
5: VOUT

PT204-6B-12



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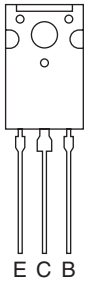

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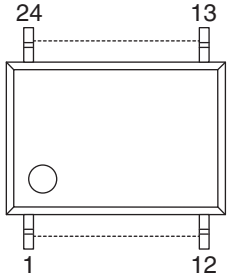

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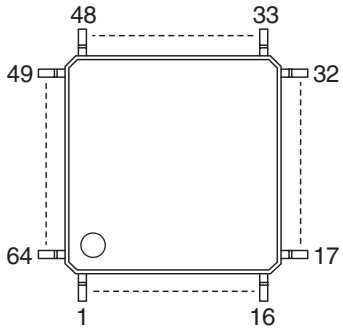

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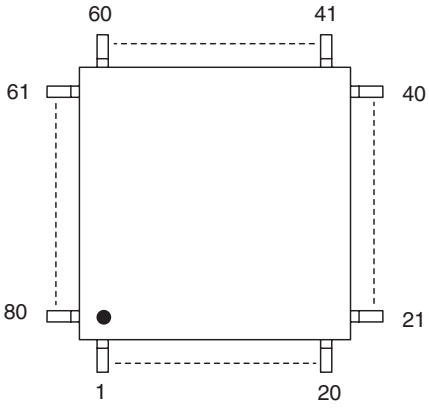
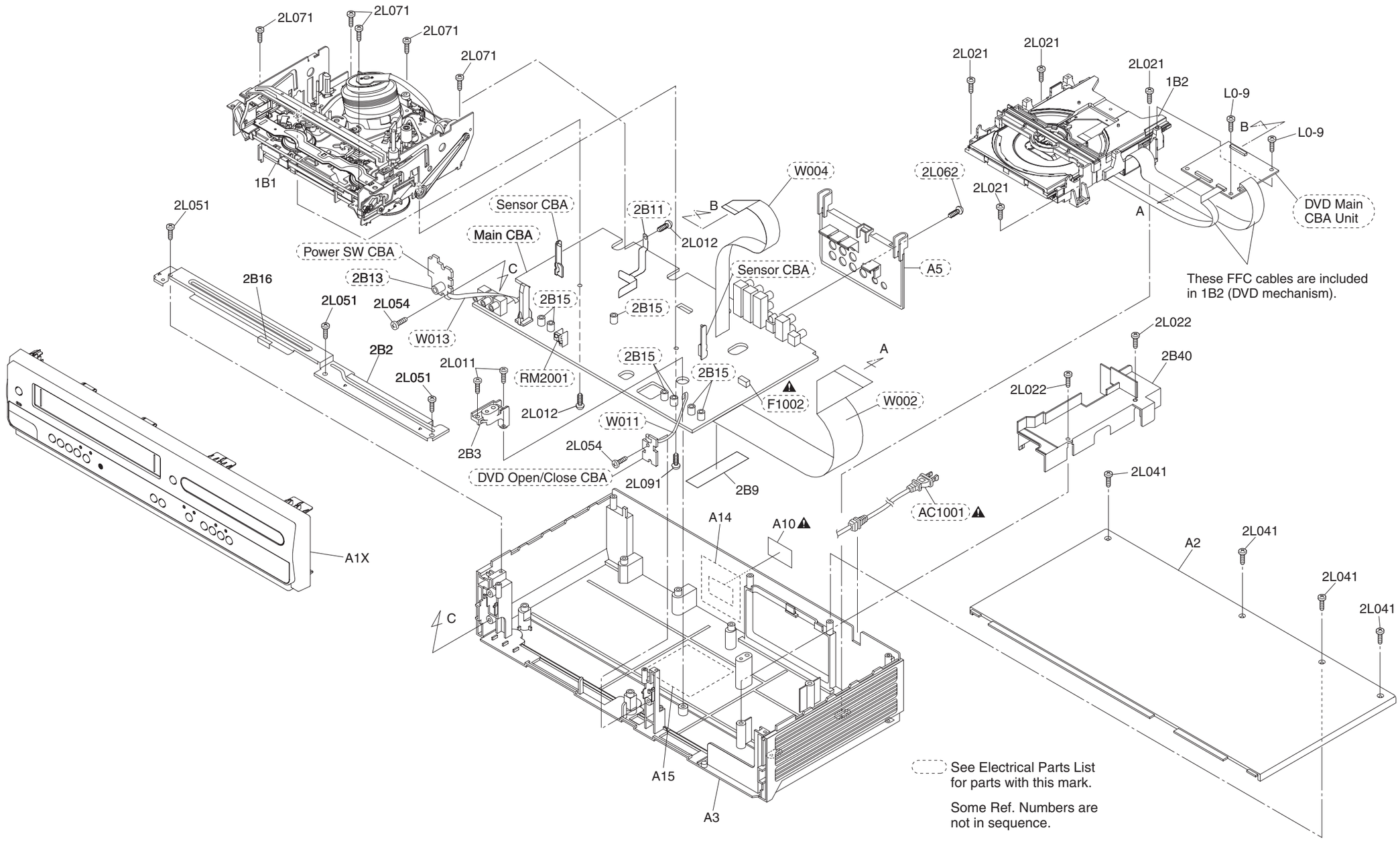


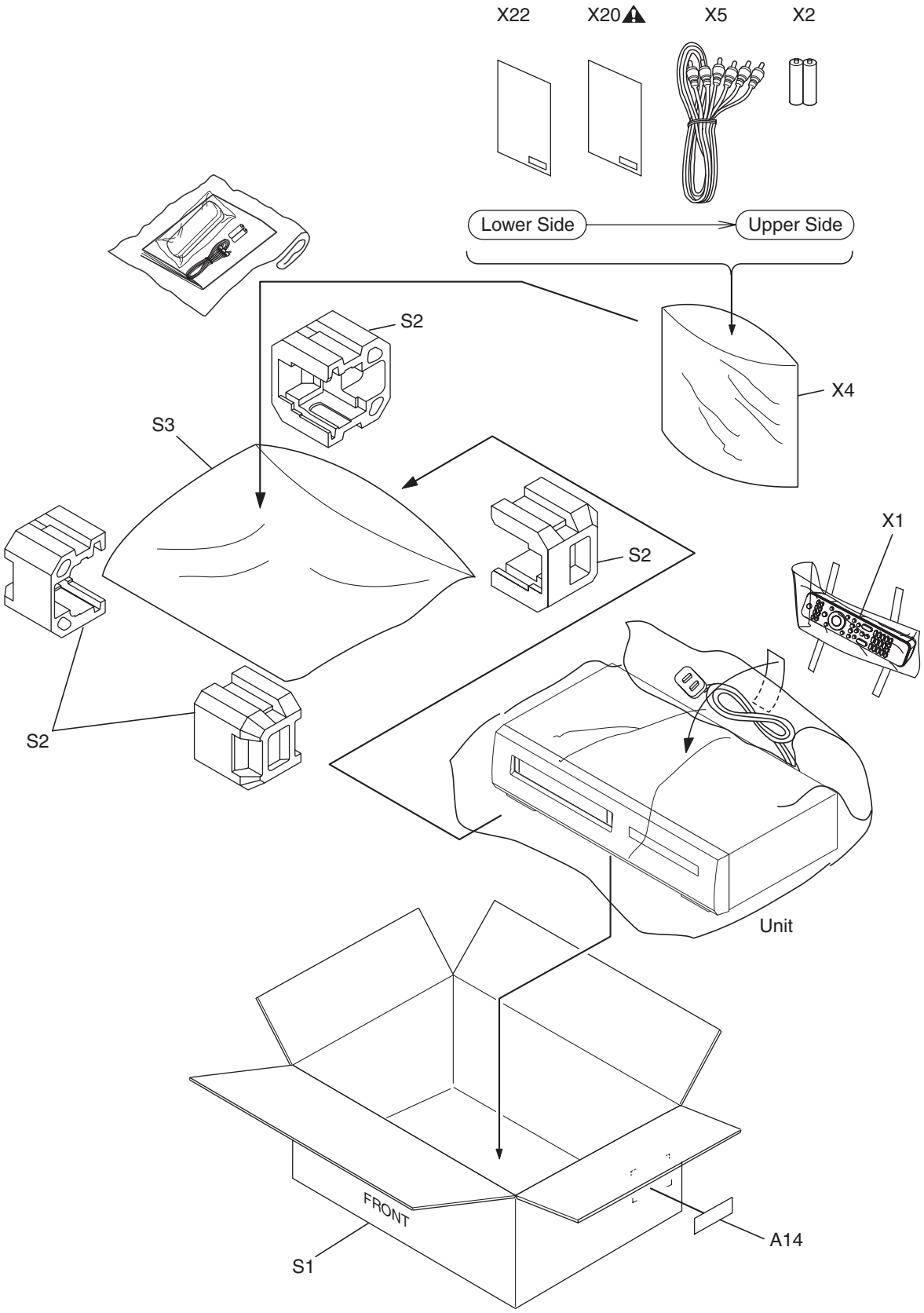
Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

EXPLODED VIEWS

Cabinet



Packing


X22
X20⚠
X5
X2
Lower Side
Upper Side
S2
X4
S3
S2
X1
S2
Unit
FRONT
S1
A14

MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that are not assigned part numbers (---------) are not available.

Ref.No.	Description	Parts No.
A1X	FRONT ASSEMBLY E8E6EUH	2VMA00063
A2	TOP CASE E8C1TCD	1VM323281
A3	CHASSIS ASSEMBLY E8K6BCD	1VM337123A
A10⚠	MODEL NO. LABEL E8E6EUH	---------
A14	BARCODE LABEL E8E6EUH	---------
A15	CAUTION LABEL E8E6EUH	---------
1B1	DECK ASSEMBLY CZD014/VM2460	N2460FL
1B2	DVD MECHA E7 N79FGKVM	N79FGKVM
2B2	TOP BRACKET H9600UD	0VM204470
2B3	RODER HOLDER H9600UD	0VM306676
2B16	TAPE HIMELON H9206JD	0VM413956
2B40	PARTITION PLATE E8A00UD	1VM321985
2L011	SCREW BIND 3CHROM +P-TITE M3X8.0 M3X8 BIND HEAD+	GBJP3080
2L012	SCREW C-TIGHT M3X6 E5610UD	0VM412937A
2L021	SCREW BIND 3CHROM +P-TITE M3X12.0 M3*12 BIND+	GBJP3120
2L022	SCREW BIND 3CHROM +P-TITE M3X8.0 M3X8 BIND HEAD+	GBJP3080
2L041	SCREW BIND BLACK_NI +P-TITE M3X10.0 3X10 BIND HEAD+	GBHP3100
2L051	SCREW BIND 3CHROM +P-TITE M3X6.0 M3X6 BIND HEAD+	GBJP3060
2L054	SCREW BIND 3CHROM +P-TITE M3X6.0 M3X6 BIND HEAD+	GBJP3060
2L071	SCREW F-PAN 3CHROM +P-TITE M3X10.0 M3*10 WASHERHEAD+	GCJP3100
2L091	SCREW BIND TIN +P-TITE M3X8.0 M3X8 BIND HEAD+	GBCP3080
L0-9	SCREW BIND 3CHROM +P-TITE M3X8.0 M3X8 BIND HEAD+	GBJP3080
PACKING		
S1	GIFT BOX CARTON E8E6EUH	2VMC00256
S2	STYROFOAM H9600UD	0VM204474E
S3	SET BAG E8P6BUH	2VMC00096
ACCESSORIES		
X1	REMOTE CONTROL UNIT NC203UH	NC203UH
X2	BATTERY DRY R03(SIZE AAA)	XB00M0RKT001
X4	ACCESSORY BAG E5700UD	0VM415576C
X5	AV CORD 1000/BLACK	WPZ0102TM018
X20⚠	OWNERS MANUAL E8E6EUH	2VMN00109
X22	QUICK START GUIDE E8E6EUH	2VMN00110

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that are not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% D.....±0.5% F.....±1%

G.....±2% J.....±5% K.....±10%

M.....±20% N.....±30% Z.....+80/-20%

DVD MAIN CBA UNIT

Ref. No.	Description	Parts No.
	DVD MAIN CBA UNIT	N6APBKUP

MCV CBA

Ref. No.	Description	Parts No.
	MCV CBA Consists of the following	2VSA00840
	MAIN CBA (MCV-A) POWER SW CBA (MCV-B) DVD OPEN/CLOSE CBA (MCV-C) SENSOR CBA	---------- ---------- ---------- 1VSA13493

MAIN CBA

Ref. No.	Description	Parts No.
	MAIN CBA (MCV-A) Consists of the following:	----------
	CAPACITORS	
C013	ELECTROLYTIC CAP. 22μF/50V M(105C)	CE1JMASTH220
C018	ELECTROLYTIC CAP. 1000μF/16V M(105C)	CE1CMASTH102
C020	ELECTROLYTIC CAP. 2200μF/10V M(105C)	CE1AMASTH222
C021	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C023	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C041	CAP CERAMIC (AX) 0.068μF/50V/B/K	CA1J683TU061
C051	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C053	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C301	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C302	CHIP CERAMIC CAP.(1608) CH J 390pF/50V	CHD1JJ3CH391
C304	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C305	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C307	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C308	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C309	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C310	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C311	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL1R0
C312	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C313	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL1R0
C314	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C315	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C316	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C317	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C319	CHIP CERAMIC CAP.(1608) CH J 10pF/50V	CHD1JJ3CH100
C321	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C322	CHIP CERAMIC CAP.(1608) CH J 68pF/50V	CHD1JJ3CH680
C327	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C328	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C329	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C330	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C331	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C332	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C333	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C336	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C339	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C340	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C341	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C342	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C343	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C348	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C352	CHIP CERAMIC CAP. B K 10μF/10V	CHE1AK30B106
C391	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C392	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C401	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C404	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C405	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C406	ELECTROLYTIC CAP. 33μF/6.3V M H7	CE0KMAVSL330
C407	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C408	CHIP CERAMIC CAP.(1608) B K 0.012μF/50V	CHD1JK30B123
C409	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C410	CHIP CERAMIC CAP.(1608) B K 2700pF/50V	CHD1JK30B272
C411	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C412	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C413	CHIP CERAMIC CAP.(1608) B K 6800pF/50V	CHD1JK30B682
C414	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C422	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C423	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C424	CERAMIC CAP. B K 470pF/100V	CCD2AKP0B471
C425	CAP POLYESTER FILM 0.018μF/100V J	CA2A183SER02
C430	CHIP CERAMIC CAP. CH J 56pF/50V	CHD1JJ3CH560
C440	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMAVSLR10
C441	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMAVSLR10
C443	CHIP CERAMIC CAP.(1608) B K 0.015μF/50V	CHD1JK30B153
C448	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C449	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C450	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C451	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C452	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C453	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C454	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C455	ELECTROLYTIC CAP. 33μF/6.3V M H7	CE0KMAVSL330
C456	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C457	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C459	CHIP CERAMIC CAP.(1608) B K 0.015μF/50V	CHD1JK30B153
C460	CHIP CERAMIC CAP.(1608) B K 0.033μF/50V	CHD1JK30B333
C461	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C462	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C463	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C464	ELECTROLYTIC CAP. 0.22μF/50V M H7	CE1JMAVSLR22
C465	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C466	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMAVSL470

Ref. No.	Description	Parts No.
C467	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C470	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C471	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C472	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C473	ELECTROLYTIC CAP. 33μF/6.3V M H7	CE0KMAVSL330
C474	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C480	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C481	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C483	ELECTROLYTIC CAP. 3.3μF/50V M H7	CE1JMAVSL3R3
C490	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMAVSL2R2
C491	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C493	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C494	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C496	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C498	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMAVSL470
C502	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C505	ELECTROLYTIC CAP. 22μF/10V M H7	CE1AMAVSL220
C507	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C508	CHIP CERAMIC CAP.(1608) B K 0.033μF/50V	CHD1JK30B333
C509	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C511	CHIP CERAMIC CAP. CH J 15pF/50V	CHD1JJ3CH150
C512	CHIP CERAMIC CAP. CH J 18pF/50V	CHD1JJ3CH180
C514	CHIP CERAMIC CAP.(1608) CH J 22pF/50V	CHD1JJ3CH220
C515	CHIP CERAMIC CAP. CH J 18pF/50V	CHD1JJ3CH180
C521	ELECTROLYTIC CAP. 47μF/25V M H7	CE1EMAVSL470
C522	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C523	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C525	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C527	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C528	CHIP CERAMIC CAP. B K 470pF/50V	CHD1JK30B471
C529	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C530	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C531	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C532	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C533	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C534	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C535	ELECTROLYTIC CAP. 22μF/10V M H7	CE1AMAVSL220
C536	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C537	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C540	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C541	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C544	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C560	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C577	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C751	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C752	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C753	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C757	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C761	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C766	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C772	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C773	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C774	ELECTROLYTIC CAP. 47μF/25V M H7	CE1EMAVSL470
C1001⚠	CAP METALLIZED FILM 0.068μF/275V/K/MPX	CTA683SER002
C1002	ELECTROLYTIC CAP. 47μF/50V	CE1JMASTH470
C1003	ELECTROLYTIC CAPACIT0R 150μF/200V	CA2D151S6012
C1004⚠	SAFETY CAP. 3300pF/250V	CCG2EMA0F332
C1005	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C1006	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1007	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1008	CHIP CERAMIC CAP. B K 470pF/50V	CHD1JK30B471
C1010	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C1011	ELECTROLYTIC CAP. 47μF/35V M	CE1GMASDL470

Ref. No.	Description	Parts No.
C1012	CERAMIC CAP LR SERIES 2KV 470PF	CCE471WAL004
C1013	CAP METALLIZED FILM 0.01/400/K/MEX	CMK103NRN002
C1014	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C1015	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C1023	CERAMIC CAP. B K 220pF/500V	CCD2JKS0B221
C1030	CAP CERAMIC (AX) 0.1μF/50V/B/K	CA1J104TU061
C1031	CAP CERAMIC (AX) 0.1μF/50V/B/K	CA1J104TU061
C1039	CAP CERAMIC (AX) 0.1μF/50V/B/K	CA1J104TU061
C1040	ELECTROLYTIC CAP. 330μF/6.3V M	CE0KMASDL331
C1042	ELECTROLYTIC CAP. 100μF/6.3V M H7	CE0KMASSL101
C1051	CAP CERAMIC (AX) 0.1μF/50V/B/K	CA1J104TU061
C1052	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1053	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1054	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1070	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1082	ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C1101	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C1201	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C1202	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C1207	CHIP CERAMIC CAP.(1608) CH J 68pF/50V	CHD1JJ3CH680
C1208	CHIP CERAMIC CAP.(1608) CH J 68pF/50V	CHD1JJ3CH680
C1221	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C1222	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C1223	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1224	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1245	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1246	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1247	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C1249	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMAVSL101
C1351	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C1352	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1354	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C1355	RES CHIP 1608 1/10W 0Ω	RRXA000HH014
C1359	CHIP CERAMIC CAP.(1608) CH D 10pF/50V	CHD1JD3CH100
C1421	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1422	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C1441	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C1442	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1462	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C1465	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C1466	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C1482	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C1523	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1524	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C1531	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1532	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C1801	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C1802	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1803	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C1804	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1805	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C1806	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1807	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1808	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C1809	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C1810	CHIP CERAMIC CAP. CH J 120pF/50V	CHD1JJ3CH121
C1811	CHIP CERAMIC CAP. B K 470pF/50V	CHD1JK30B471
C1812	CHIP CERAMIC CAP. B K 470pF/50V	CHD1JK30B471
C2002	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C2004	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C2012	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104

Ref. No.	Description	Parts No.
DIODES		
D013	RECTIFIER DIODE BA158	NDQZ000BA158
D015	SCHOTTKY BARRIER DIODE SB390	NDQZ000SB390
D016	SCHOTTKY BARRIER DIODE SB240-B/P	NDQZ000SB240
D019	WIRE CP STP-S-0.60	XZ40F0REN002
D031	ZENER DIODE SMD MM3Z16B	ND1B0MM3Z16B
D035	ZENER DIODE SMD MM3Z7V5B	ND1BMM3Z7V5B
D041	IC SHUNT REGULATOR AS431BZTR-E1	NSZBA0TBCD01
D052	DIODE ZENER 10BSB-T26	NDTB010BST26
D062	DIODE ZENER 4V3BSC-T26	NDTC4R3BST26
D063	RECTIFIER DIODE 1N4005	NDQZ001N4005
D080	RECTIFIER DIODE 1N4005	NDQZ001N4005
D082	RECTIFIER DIODE 1N4005	NDQZ001N4005
D451	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D504	ZENER DIODE SMD MM3Z18B	ND1B0MM3Z18B
D555	LED SIR-563ST3F P	QPQPS1R563ST
D564	LED(RED) LTL-4222	NPQZ0LTL4222
D565	LED(RED) LTL-4222	NPQZ0LTL4222
D566	LED(GREEN) LTL-1CHGE	NPQZLTL1CHGE
D567	LED(GREEN) LTL-1CHGE	NPQZLTL1CHGE
D777	ZENER DIODE SMD MM3Z6V8B	ND1BMM3Z6V8B
D1001	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1002	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1003	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1004	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1006	SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D1007	CHIP ZENER DIODE CRZ27(TE85L Q	QD1Z00CRZ27Q
D1008	SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D1009	CHIP ZENER DIODE CRZ27(TE85L Q	QD1Z00CRZ27Q
D1010	RECTIFIER DIODE BA158	NDQZ000BA158
D1011	RECTIFIER DIODE BA158	NDQZ000BA158
D1012	RECTIFIER DIODE BA159	NDQZ000BA159
D1014	RECTIFIER DIODE BA158	NDQZ000BA158
D1020	SCHOTTKY BARRIER DIODE SB240-B/P	NDQZ000SB240
D1031	WIRE CP STP-S-0.60	XZ40F0REN002
D1036	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1037	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1038	WIRE CP STP-S-0.60	XZ40F0REN002
D1058	RECTIFIER DIODE 1N4005	NDQZ001N4005
D2001	LED(GREEN) LTL-1CHGE	NPQZLTL1CHGE
D2002	LED(GREEN) LTL-1CHGE	NPQZLTL1CHGE
ICS		
IC301	IC Y/C/A LA71208EB-3E	QSCA0R0SY007
IC451	IC HIFI AN3663FBP-TV	QSZBA0RMS035
IC501	IC SYSCON MN101D08DZL	QSAA0R0MS031
IC751	IC SWITCH 4053L-S16-R	NSZBA0TUTC04
IC1001⚠	PHOTOCOUPLER EL817B	NPEB000EL817
IC1002	IC REGULATOR UTC0532	NSCA0T02H005
IC1003	IC SWITCHING FA5640N-C6-TE3/SOP-8	QSCA0T0FD007
IC1004	IC REGULATOR UTC0532	NSCA0T02H005
IC1201	IC OP AMP UTC4558TE/SOP/8PIN	NSCA0T02H002
IC1402	DRIVER FOR DVD MM1637XVBE	QSZBA0TMM102
IC1801	IC CCD IC AN13410A	QSCA0T0MS052
COILS		
L009	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L251	WIRE CP STP-S-0.60	XZ40F0REN002
L303	INDUCTOR AXIAL AL02TA101K	LLXAKTABC101
L304	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L400	CHIP INDUCTOR(22UH) LB2518T220M	LLC220MTU029
L421	INDUCTOR RADIAL AL35RD470K	LLF470ABC001
L451	WIRE CP STP-S-0.60	XZ40F0REN002

Ref. No.	Description	Parts No.
L502	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L504	WIRE CP STP-S-0.60	XZ40F0REN002
L506	WIRE CP STP-S-0.60	XZ40F0REN002
L751	INDUCTOR AXIAL AL02TA101K	LLXAKTABC101
L771	WIRE CP STP-S-0.60	XZ40F0REN002
L1001⚠	COIL LINE FILTER JLB20164	LLEG0Z0XB030
L1002	WIRE CP STP-S-0.60	XZ40F0REN002
L1020	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L1350	WIRE CP STP-S-0.60	XZ40F0REN002
L1351	CHIP INDUCTOR LK1608R47K-T	LLACKB3TUR47
L1522	INDUCTOR RADIAL AL35RD470K	LLF470ABC001
L1801	RES CHIP 1608 1/10W 0Ω	RRXA000HH014
L1802	RES CHIP 1608 1/10W 0Ω	RRXA000HH014
L2001	INDUCTOR AXIAL AL02TA101K	LLXAKTABC101
TRANSISTORS		
Q052	NPN TRANSISTOR RC103S	NQSZ00RC103S
Q055	NPN TRANSISTOR 2SC5343G-AT	NQSG02SC5343
Q056	NPN TRANSISTOR ST 2SC3203Y	NQSY02SC3203
Q063	PNP TRANSISTOR ST 2SA1266G	NQSGT2SA1266
Q064	NPN TRANSISTOR ST 2SC3199G	NQSGT2SC3199
Q302	NPN TRANSISTOR SMD MMBTSC3879Y	NQ1YBTSC3879
Q391	PNP TRANSISTOR ST 2SA1266G	NQSGT2SA1266
Q421	PNP TRANSISTOR ST 2SA1266G	NQSGT2SA1266
Q422	NPN TRANSISTOR ST 2SC3203Y	NQSY02SC3203
Q425	PNP TRANSISTOR RA103S	NQSZ00RA103S
Q426	CHIP TRANSISTOR RN1511(TE85R.F)	QQ2Z0RN1511F
Q428	NPN TRANSISTOR SMD MMBTSC3875Y	NQ1YBTSC3875
Q429	NPN TRANSISTOR SMD MMBTSC3875Y	NQ1YBTSC3875
Q430	PNP TRANSISTOR SMD MMBTSA1504G	NQ1GBTSA1504
Q432	NPN TRANSISTOR MMBTRC103SS	NQ1ZTRC103SS
Q501	NPN TRANSISTOR ST 2SC3199L	NQSLT2SC3199
Q506	PHOTO TRANSISTOR PT204-6B-12	NPWZT2046B12
Q1002	MOS FET TK5A50D(S4FND X S)	QEEZTK5A50DS
Q1004	NPN TRANSISTOR ST 2SC3203Y	NQSY02SC3203
Q1005	NPN TRANSISTOR MMBTRC101SS	NQ1ZTRC101SS
Q1006	PNP TRANSISTOR ST 2SA1266G	NQSGT2SA1266
Q1011	NPN TRANSISTOR MMBTSC3265Y	NQ1YBTSC3265
Q1101	NPN TRANSISTOR SMD MMBTSC3875Y	NQ1YBTSC3875
Q1106	NPN TRANSISTOR SMD MMBTSC3875L	NQ1LBTSC3875
Q1201	NPN TRANSISTOR ST 2SC3199G	NQSGT2SC3199
Q1202	NPN TRANSISTOR ST 2SC3199G	NQSGT2SC3199
Q1204	PNP TRANSISTOR ST 2SA1266G	NQSGT2SA1266
Q1301	PNP TRANSISTOR SMD MMBTSA1504G	NQ1GBTSA1504
Q1351	NPN TRANSISTOR ST 2SC3199G	NQSGT2SC3199
Q1802	PNP TRANSISTOR SMD MMBTSA1504G	NQ1GBTSA1504
Q1803	NPN TRANSISTOR SMD MMBTSC3875Y	NQ1YBTSC3875
Q2002	NPN TRANSISTOR SMD MMBTSC3875Y	NQ1YBTSC3875
Q2013	NPN TRANSISTOR SMD MMBTSC3875Y	NQ1YBTSC3875
Q2014	NPN TRANSISTOR MMBTRC103SS	NQ1ZTRC103SS
RESISTORS		
R041	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R042	RES CHIP 1608 1/10W J 820 Ω	RRXA821HH013
R043	RES CHIP 1608 1/10W F 22.0 kΩ	RTW2202HH008
R044	RES CHIP 1608 1/10W F 1.50 kΩ	RTW1501HH008
R045	RES CHIP 1608 1/10W F 22.0 kΩ	RTW2202HH008
R046	RES CHIP 1608 1/10W J 680 Ω	RRXA681HH013
R056	RES CARBON FILM 1/4W J 1.0 kΩ	RCJ102PAK001
R057	RES CHIP 3216 1/4W J 150 Ω	RRX4151HH034
R058	RES CHIP 1608 1/10W J 180 Ω	RRXA181HH013
R063	WIRE CP STP-S-0.60	XZ40F0REN002
R066	RES CARBON FILM 1/4W J 470 Ω	RCJ471PAK001

Ref. No.	Description	Parts No.
R067	RES CHIP 1608 1/10W J 4.7 kΩ	RRXA472HH013
R068	RES CHIP 1608 1/10W J 4.7 kΩ	RRXA472HH013
R069	RES CHIP 1608 1/10W J 47 kΩ	RRXA473HH013
R073	RES CARBON FILM 1/4W J 10 kΩ	RCJ103PAK001
R075	RES CARBON FILM 1/4W J 4.7 kΩ	RCJ472PAK001
R092	RES CARBON FILM 1/4W J 560 Ω	RCJ561PAK001
R095	RES CARBON FILM 1/4W J 560 Ω	RCJ561PAK001
R301	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R302	RES CHIP 1608 1/10W J 12 kΩ	RRXA123HH013
R304	RES CHIP 1608 1/10W J 1.2 kΩ	RRXA122HH013
R306	RES CHIP 1608 1/10W J 3.9M Ω	RRXA395HH013
R310	RES CHIP 1608 1/10W J 4.7 kΩ	RRXA472HH013
R311	RES CHIP 1608 1/10W J 1.8 kΩ	RRXA182HH013
R316	RES CHIP 1608 1/10W J 2.2 kΩ	RRXA222HH013
R317	RES CHIP 1608 1/10W J 8.2 kΩ	RRXA822HH013
R318	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
R319	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
R320	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
R321	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R322	RES CHIP 1608 1/10W J 18 kΩ	RRXA183HH013
R323	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R324	RES CHIP 1608 1/10W J 18 kΩ	RRXA183HH013
R327	RES CHIP 1608 1/10W F 1.10 kΩ	RTW1101HH008
R341	RES CHIP 1608 1/10W J 33 kΩ	RRXA333HH013
R343	RES CHIP 1608 1/10W J 3.3 kΩ	RRXA332HH013
R344	RES CHIP 1608 1/10W J 47 kΩ	RRXA473HH013
R391	RES CARBON FILM 1/4W J 680 Ω	RCJ681PAK001
R392	RES CARBON FILM 1/4W J 680 Ω	RCJ681PAK001
R397	RES CHIP 1608 1/10W J 100 Ω	RRXA101HH013
R401	RES CHIP 1608 1/10W J 6.8 kΩ	RRXA682HH013
R402	RES CHIP 1608 1/10W J 8.2 kΩ	RRXA822HH013
R407	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
R408	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
R409	RES CHIP 1608 1/10W J 8.2 kΩ	RRXA822HH013
R410	RES CHIP 1608 1/10W J 12 kΩ	RRXA123HH013
R411	RES CHIP 1608 1/10W J 330 kΩ	RRXA334HH013
R412	RES CHIP 1608 1/10W F 150 Ω	RTW1500HH008
R413	RES CHIP 1608 1/10W J 22 kΩ	RRXA223HH013
R414	RES CHIP 1608 1/10W J 910 Ω	RRXA911HH013
R415	RES CHIP 1608 1/10W J 2.2 kΩ	RRXA222HH013
R416	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R421	RES CARBON FILM 1/4W J 6.8 kΩ	RCJ682PAK001
R422	RES CHIP 1608 1/10W J 22 kΩ	RRXA223HH013
R424	RES CARBON FILM 1/4W J 47 kΩ	RCJ473PAK001
R425	RES CARBON FILM 1/4W J 100 Ω	RCJ101PAK001
R426	RES CARBON FILM 1/4W J 820 Ω	RCJ821PAK001
R450	RES CHIP 1608 1/10W J 39 kΩ	RRXA393HH013
R451	RES CHIP 1608 1/10W J 18 kΩ	RRXA183HH013
R452	RES CHIP 1608 1/10W J 4.7 kΩ	RRXA472HH013
R453	RES CHIP 1608 1/10W J 47 kΩ	RRXA473HH013
R454	RES CHIP 1608 1/10W J 6.8 kΩ	RRXA682HH013
R455	RES CHIP 1608 1/10W J 47 kΩ	RRXA473HH013
R456	RES CHIP 1608 1/10W J 6.8 kΩ	RRXA682HH013
R460	RES CHIP 1608 1/10W J 1.8 kΩ	RRXA182HH013
R461	RES CHIP 1608 1/10W J 4.7 kΩ	RRXA472HH013
R462	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
R463	RES CHIP 1608 1/10W J 47 kΩ	RRXA473HH013
R464	RES CHIP 1608 1/10W J 6.8 kΩ	RRXA682HH013
R465	RES CHIP 1608 1/10W J 47 kΩ	RRXA473HH013
R466	RES CHIP 1608 1/10W J 6.8 kΩ	RRXA682HH013
R468	RES CHIP 1608 1/10W J 120 kΩ	RRXA124HH013
R469	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R471	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013

Ref. No.	Description	Parts No.
R476	RES CHIP 1608 1/10W J 22 kΩ	RRXA223HH013
R477	RES CHIP 1608 1/10W J 22 kΩ	RRXA223HH013
R478	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R479	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R488	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R490	RES CHIP 1608 1/10W J 2.2 kΩ	RRXA222HH013
R491	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
R502	RES CHIP 1608 1/10W J 2.2 kΩ	RRXA222HH013
R503	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R504	RES CHIP 1608 1/10W J 100 kΩ	RRXA104HH013
R507	RES CHIP 1608 1/10W J 220 Ω	RRXA221HH013
R511	RES CHIP 1608 1/10W J 39 kΩ	RRXA393HH013
R512	RES CHIP 1608 1/10W J 100 Ω	RRXA101HH013
R518	RES CHIP 1608 1/10W J 220 kΩ	RRXA224HH013
R523	RES CHIP 1608 1/10W J 2.2 kΩ	RRXA222HH013
R524	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R525	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R526	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R527	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R528	RES CARBON FILM 1/4W J 10 kΩ	RCJ103PAK001
R530	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R531	RES CARBON FILM 1/4W G 4.7 kΩ	RCG472PAK001
R532	RES CARBON FILM 1/4W G 1.5 kΩ	RCG152PAK001
R533	RES CARBON FILM 1/4W G 22 kΩ	RCG223PAK001
R534	RES CARBON FILM 1/4W G 470 Ω	RCG471PAK001
R535	RES CARBON FILM 1/4W G 10 kΩ	RCG103PAK001
R536	RES CARBON FILM 1/4W G 3.6 kΩ	RCG362PAK001
R537	RES CHIP 1608 1/10W J 33 kΩ	RRXA333HH013
R540	RES CHIP 1608 1/10W J 330 kΩ	RRXA334HH013
R541	RES CHIP 1608 1/10W J 330 kΩ	RRXA334HH013
R542	RES CARBON FILM 1/4W J 270 Ω	RCJ271PAK001
R543	RES CHIP 1608 1/10W J 4.7 kΩ	RRXA472HH013
R544	RES CHIP 1608 1/10W J 18 kΩ	RRXA183HH013
R545	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R546	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R551	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R552	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R559	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
R563	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R566	RES CARBON FILM 1/4W J 1.2 kΩ	RCJ122PAK001
R568	RES CARBON FILM 1/4W J 1.2 kΩ	RCJ122PAK001
R573	RES CARBON FILM 1/4W J 680 Ω	RCJ681PAK001
R574	RES CARBON FILM 1/4W J 680 Ω	RCJ681PAK001
R580	RES CARBON FILM 1/4W J 1.2 kΩ	RCJ122PAK001
R585	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R586	RES CHIP 1608 1/10W J 1.2 kΩ	RRXA122HH013
R587	RES CHIP 1608 1/10W J 1.5 kΩ	RRXA152HH013
R588	RES CHIP 1608 1/10W J 2.2 kΩ	RRXA222HH013
R590	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R591	RES CHIP 1608 1/10W J 1.2 kΩ	RRXA122HH013
R593	RES CHIP 1608 1/10W J 1.8 kΩ	RRXA182HH013
R594	RES CHIP 1608 1/10W J 1.8 kΩ	RRXA182HH013
R606	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R607	RES CARBON FILM 1/4W J 10 kΩ	RCJ103PAK001
R610	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R612	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R618	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R619	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R640	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R752	RES CHIP 1608 1/10W J 75 Ω	RRXA750HH013
R753	RES CHIP 1608 1/10W J 75 Ω	RRXA750HH013
R758	RES CARBON FILM 1/4W J 75 Ω	RCJ750PAK001
R773	RES CHIP 1608 1/10W J 100 kΩ	RRXA104HH013

Ref. No.	Description	Parts No.
R774	RES CARBON FILM 1/4W J 22 kΩ	RCJ223PAK001
R775	RES CHIP 1608 1/10W J 100 kΩ	RRXA104HH013
R777	RES CARBON FILM 1/4W J 2.7 kΩ	RCJ272PAK001
R788	WIRE CP STP-S-0.60	XZ40F0REN002
R1001	RES CHIP 1608 1/10W J 100 kΩ	RRXA104HH013
R1007	RES CHIP 3216 1/4W J 220 Ω	RRX4221HH034
R1009	RES CHIP 3216 1/4W J 10 Ω	RRX4100HH034
R1010	RES CHIP 3216 1/4W J 100 Ω	RRX4101HH034
R1011	RES CHIP 3216 1/4W J 39 kΩ	RRX4393HH034
R1012	RES CHIP 3216 1/4W J 39 kΩ	RRX4393HH034
R1013	METALOXIDE RES 2W J 100 kΩ	RNB104PAK004
R1014	METALOXIDE RES 2W J 0.27OHM	RNJR27PAK002
R1015	RES CHIP 3216 1/4W J 27 Ω	RRX4270HH034
R1016	RES CHIP 1608 1/10W J 100 kΩ	RRXA104HH013
R1025	RES CARBON FILM 1/4W J 10 kΩ	RCJ103PAK001
R1026	RES CARBON FILM 1/4W J 10 kΩ	RCJ103PAK001
R1044	RES CHIP 1608 1/10W J 220 kΩ	RRXA224HH013
R1068	RES CARBON FILM 1/4W J 3.9 kΩ	RCJ392PAK001
R1077	RES CARBON FILM 1/4W J 1.5 kΩ	RCJ152PAK001
R1085	RES CHIP 1608 1/10W J 100 Ω	RRXA101HH013
R1086	RES CHIP 1608 1/10W J 100 kΩ	RRXA104HH013
R1087	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R1090	RES CHIP 1608 1/10W F 200 kΩ	RTW2003HH008
R1091	RES CHIP 1608 1/10W F 120 kΩ	RTW1203HH008
R1101	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R1102	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R1205	RES CHIP 1608 1/10W F 12.0 kΩ	RTW1202HH008
R1206	RES CHIP 1608 1/10W F 12.0 kΩ	RTW1202HH008
R1207	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
R1208	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
R1209	RES CHIP 1608 1/10W F 30.0 kΩ	RTW3002HH008
R1210	RES CHIP 1608 1/10W F 30.0 kΩ	RTW3002HH008
R1221	RES CHIP 1608 1/10W J 100 kΩ	RRXA104HH013
R1222	RES CHIP 1608 1/10W J 100 kΩ	RRXA104HH013
R1223	RES CHIP 1608 1/10W J 470 Ω	RRXA471HH013
R1224	RES CHIP 1608 1/10W J 470 Ω	RRXA471HH013
R1225	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R1226	RES CHIP 1608 1/10W J 1.0 kΩ	RRXA102HH013
R1238	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
R1240	RES CHIP 1608 1/10W J 100 kΩ	RRXA104HH013
R1245	RES CARBON FILM 1/4W J 47 Ω	RCJ470PAK001
R1309	RES CHIP 1608 1/10W J 2.2 kΩ	RRXA222HH013
R1351	RES CHIP 1608 1/10W J 1.8 kΩ	RRXA182HH013
R1352	RES CHIP 1608 1/10W J 2.2 kΩ	RRXA222HH013
R1353	RES CHIP 1608 1/10W J 2.2 kΩ	RRXA222HH013
R1354	RES CHIP 1608 1/10W J 220 Ω	RRXA221HH013
R1355	RES CHIP 1608 1/10W J 75 Ω	RRXA750HH013
R1356	RES CHIP 1608 1/10W J 100 kΩ	RRXA104HH013
R1395	RES CARBON FILM 1/4W J 1.0 kΩ	RCJ102PAK001
R1421	RES CHIP 1608 1/10W F 130 Ω	RTW1300HH008
R1422	RES CHIP 1608 1/10W J 75 Ω	RRXA750HH013
R1441	RES CHIP 1608 1/10W F 130 Ω	RTW1300HH008
R1442	RES CHIP 1608 1/10W J 75 Ω	RRXA750HH013
R1443	RES CHIP 1608 1/10W J 75 Ω	RRXA750HH013
R1461	RES CHIP 1608 1/10W F 130 Ω	RTW1300HH008
R1462	RES CHIP 1608 1/10W J 75 Ω	RRXA750HH013
R1481	RES CHIP 1608 1/10W F 130 Ω	RTW1300HH008
R1482	RES CHIP 1608 1/10W J 75 Ω	RRXA750HH013
R1490	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
R1501	RES CHIP 1608 1/10W J 100 Ω	RRXA101HH013
R1801	RES CHIP 1608 1/10W F 56.0 kΩ	RTW5602HH008
R1803	RES CHIP 1608 1/10W J 2.7 kΩ	RRXA272HH013
R1806	RES CHIP 1608 1/10W F 120 Ω	RTW1200HH008

Ref. No.	Description	Parts No.
R2001	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R2002	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R2003	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R2005	RES CHIP 1608 1/10W J 6.8 kΩ	RRXA682HH013
R2012	RES CHIP 1608 1/10W J 5.6 kΩ	RRXA562HH013
R2013	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R2028	RES CHIP 1608 1/10W J 6.8 kΩ	RRXA682HH013
R2031	RES CHIP 1608 1/10W J 33 kΩ	RRXA333HH013
R2051	RES CARBON FILM 1/4W J 3.9 kΩ	RCJ392PAK001
R2052	RES CARBON FILM 1/4W J 3.9 kΩ	RCJ392PAK001
R2053	RES CARBON FILM 1/4W J 680 Ω	RCJ681PAK001
R2054	RES CARBON FILM 1/4W J 680 Ω	RCJ681PAK001
R2055	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R2056	RES CHIP 1608 1/10W J 10 kΩ	RRXA103HH013
R3004	RES CHIP 3216 1/4W J 100 Ω	RRX4101HH034
	SWITCHES	
SW502	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW505	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW508	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW509	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW511	LEAF SWITCH MXS01830MVP0	SSC0101MCE03
SW512	SWITCH ROTARY SSS-53MD-1	SSR0106KB004
SW513	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW514	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW515	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW516	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW2002	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW2003	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW2005	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
SW2006	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
	MISCELLANEOUS	
A5	JACK BOARD(RCA) H9600UD	0VM204468
AC1001⚠	AC CORD W/O A GND WIRE UL/CSA/1770/ BLACK	WAC172ZHN004
2B9	SCOTCH TAPE WIDTH 12MM	1EZZ10416
2B11	HEAD SHIELD E8P6BUH	2VMS00065
2B15	BUSH LED(F) H3700UD	0VM409508
BC1001	BEAD INDUCTORS B29 RID 2.3X7.5X7.5T	LLEF0S0XM002
F1002⚠	TIME LAG FUSE SLT250V1.6A	PDGSLB0NG162
JC06	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
JC11	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
JC30	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
JC31	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
JC781	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
JC782	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
JC802	RES CHIP 1608 1/10W 0 Ω	RRXA000HH014
JK751	RCA JACK MSP-283V-B-324NILF01	JXRL040LY141
JK752	RCA JACK MSP-293V3-324NILF(B1	JYRL060LY031
JK753	RCA JACK MSP-281V42-B(B110)	JXRL010LY142
JK754	RCA JACK MSP-281V40-B(B110)	JXRL010LY138
JK755	RCA JACK 1P MSP-281V31-A(B110)	JYRL010LY027
JK756	RCA JACK 2P MSP-282V-12 NILF(B11	JXRL020LY121
JK1202	RCA JACK MSP-281V41-B(B110)	JXRL010LY140
JK1401	S TYPE JACK MDC-050V-2.4 LF(B110	JXEL040LY003
JK1403	RCA JACK MSP-283V-B-752 NI LF	JXRL040LY122
2L062	SCREW BIND BLACK_NI +B-TITE M3X8.0 M3X8 BIND HEAD+	GBHB3080
RM2001	SENSOR REMOTE RECEIVER SIRC420MH11B6A7T	USEJRS0Q0001
SA1001⚠	VARISTOR SVR10D241KA78BE	NVQZVR10D241
T1001⚠	TRANS POWER BCK-28-9853	LTT2PC0XB090
TP301	WIRE CP STP-S-0.60	XZ40F0REN002
TP302	WIRE CP STP-S-0.60	XZ40F0REN002

Ref. No.	Description	Parts No.
TP506	WIRE CP STP-S-0.60	XZ40F0REN002
TP507	WIRE CP STP-S-0.60	XZ40F0REN002
TP513	WIRE CP STP-S-0.60	XZ40F0REN002
TP751	WIRE CP STP-S-0.60	XZ40F0REN002
TP753	WIRE CP STP-S-0.60	XZ40F0REN002
TP754	WIRE CP STP-S-0.60	XZ40F0REN002
VR501	CARBON P.O.T. VZ067TL1 B104 PB(F)	VRCB104HH014
W002	FFC CABLE 26P FFC/P1.00/230	WX1H9600-002
W004	WIRE ASSEMBLY FFC 15 193 WHITE	WX1E8A00-004
X301	XTAL 3.579545MHz(20PPM)	FXC355LCHE01
X501	XTAL 14.31818MHz HC-49/S	FHX146CMT001
X502	RESONATOR XTAL 32.768kHz QTF38-32.768K125P15L	FXC323LQUA03

POWER SW CBA

Ref. No.	Description	Part No.
	POWER SW CBA (MCV-B) Consists of the following:	----------
	DIODE	
D561	LED(RED) LTL-4222	NPQZ0LTL4222
	SWITCH	
SW518	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
	MISCELLANEOUS	
2B13	BUSH LED(E) H1600UD	0VM408832
W013	WIRE ASSEMBLY 4P 04 60 GRAY	WX1E8C6A-001

DVD OPEN/CLOSE CBA

Ref. No.	Description	Part No.
	DVD OPEN/CLOSE CBA (MCV-C) Consists of the following:	----------
	SWITCH	
SW2001	TACT SWITCH TC-1104(H=9.5)	SST0101DNG01
	MISCELLANEOUS	
W011	WIRE ASSEMBLY 02 130 GRAY	WX1E8A00-001

SENSOR CBA

Ref. No.	Description	Part No.
	SENSOR CBA Consists of the following:	1VSA13493
	TRANSISTORS	
Q503	PHOTO TRANSISTOR PT204-6B-12	NPWZT2046B12
Q504	PHOTO TRANSISTOR PT204-6B-12	NPWZT2046B12

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2013-12-27